

# Teach Yourself *HyperCard*<sup>™</sup>

for Macintosh<sup>™</sup>





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# Teach Yourself

## *HyperCard*<sup>TM</sup>

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# HyperCard



# HyperCard

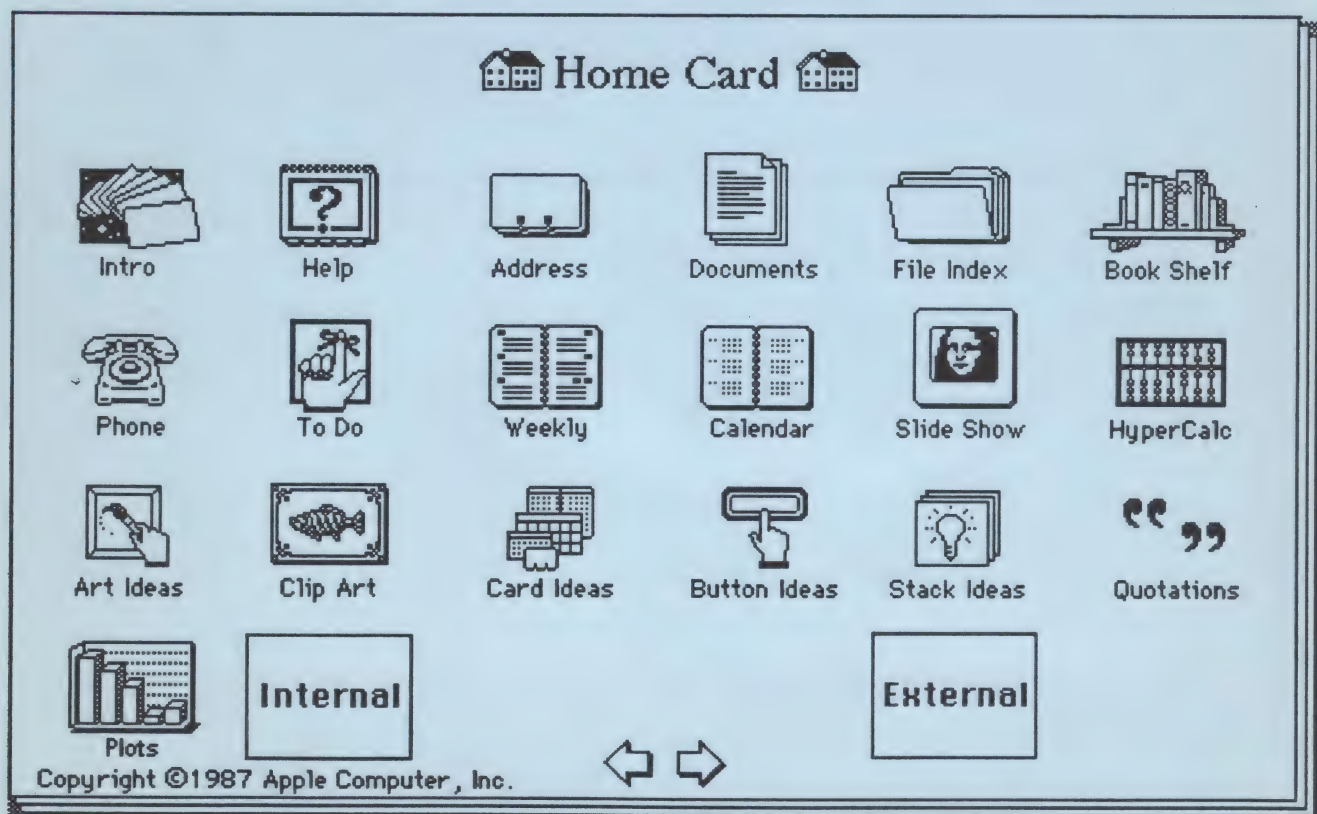
## 1. Preamble Contents

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Copying/Pasting a Button  
Parameters for Opening an Outside Application  
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## 1. Preamble

### Starting HyperCard

# HyperCard

Since HyperCard is included with every Macintosh beginning in August 1987, we assume that you have a copy of the program to use this Teach Yourself guide.

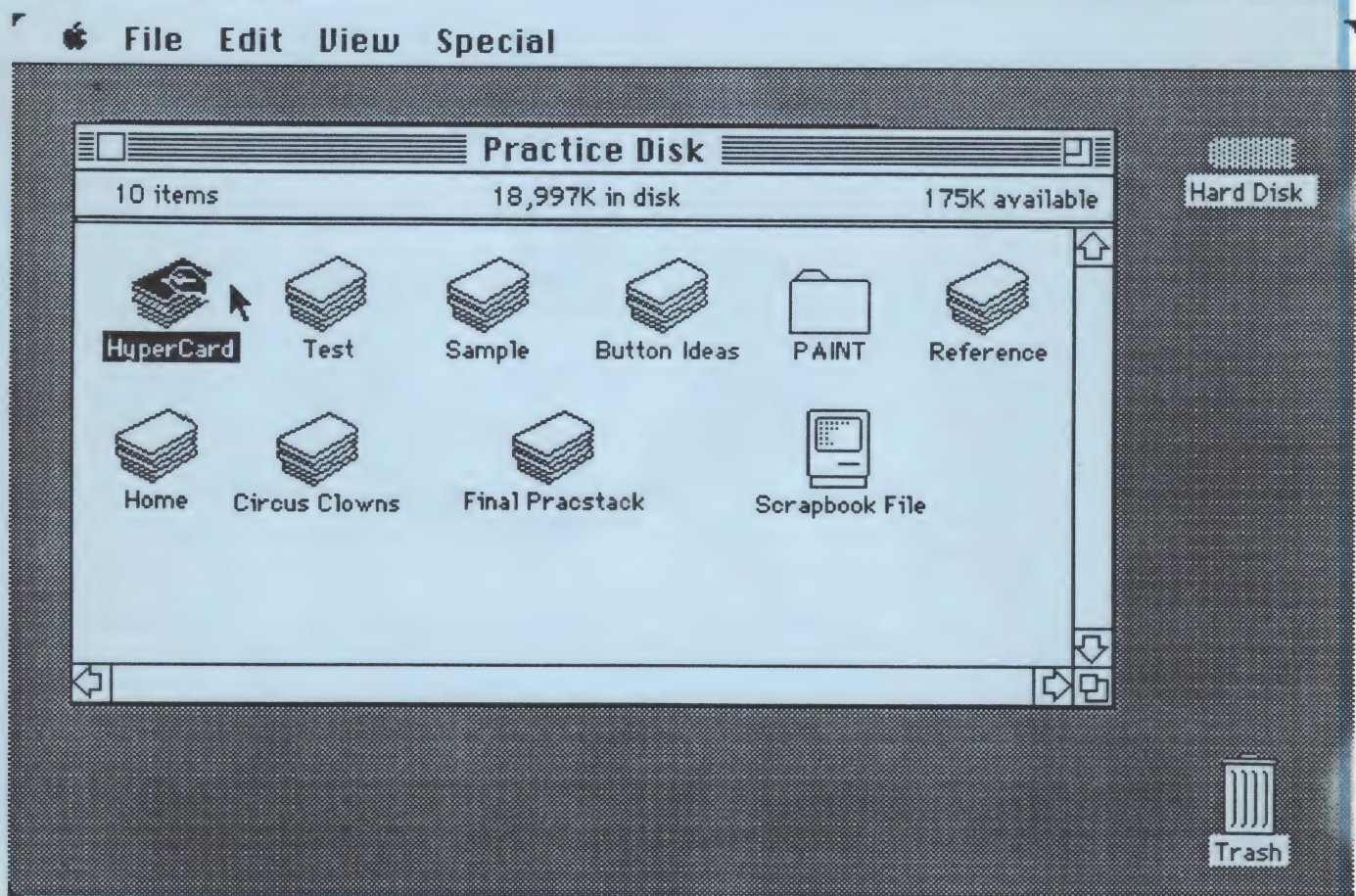
This guide comes with a practice disk containing all the documents you'll need to teach yourself HyperCard. The most important among these documents (stacks), is the Home stack which is essential for HyperCard to operate. You can use the Home stack on your HyperCard program disk, but to enable you to follow the exercises in this guide we suggest you use the "Home" stack on the practice disk.

If you have a two-disk system:

#### **Make a backup copy of the practice disk**

If you have a hard disk:

- Copy the practice disk to a folder on your hard disk**
- Copy the HyperCard program (icon) to the folder**
- Move the Scrapbook file to your System Folder**
- (Rename your own Scrapbook first if you want to keep it there)**
- Double-click the HyperCard icon**





# HyperCard

## 1. Preamble Opening the Calendar stack

When you open HyperCard, you go directly to the Home stack. What you see on your screen is the first card of the Home stack: the Home Card. A card is basically what you see on your screen, with a few icons or associated scripts.

For the time being, consider a card as what you see on your screen.

A stack is basically a set of cards.

The Home stack is the central point of HyperCard. From the Home stack you can access all the stacks like the ones you see in the illustration below. You can also add other stacks as you will see in the following pages.

**Click on the Calendar icon**







## 1. Preamble

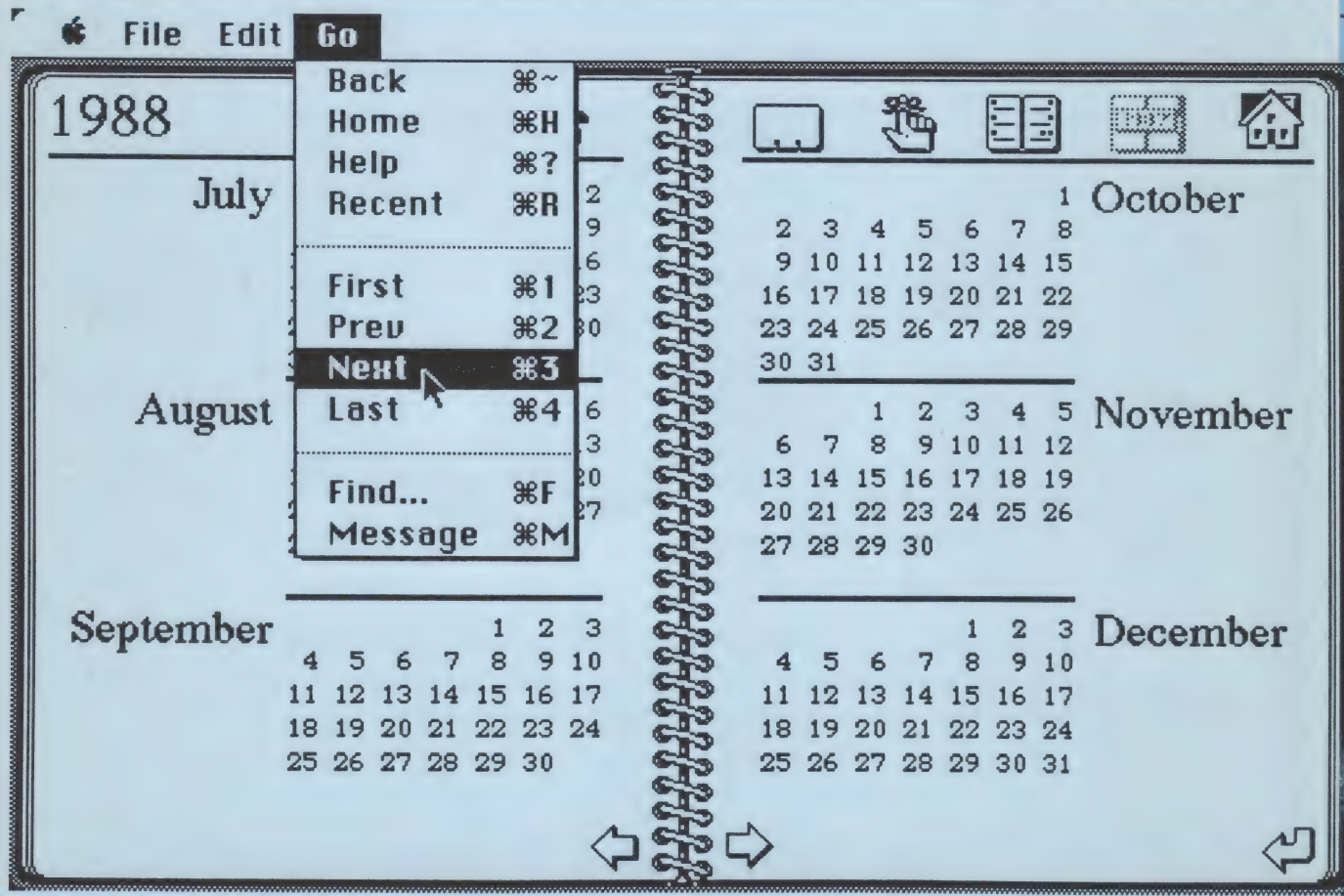
### Going to the next card

# HyperCard

The Calendar Stack is one of the stacks that come with every HyperCard package. On the screen below, you will see small pictures of arrows, a house, etc. These pictures are called "icons". If you click on one of these icons, you will go to another stack or to another card in the same stack. As a HyperCard stack is a set of cards, generally having some common features, you will now see how to move to the next card in any HyperCard stack:

Select the **Next** command from the **Go** menu

You could also click on the  icon at the bottom of the screen or press the right arrow key. To go back to the previous card, you could either use the Prev command of the Go menu or press the left arrow key on the keyboard or click the  icon.







# HyperCard

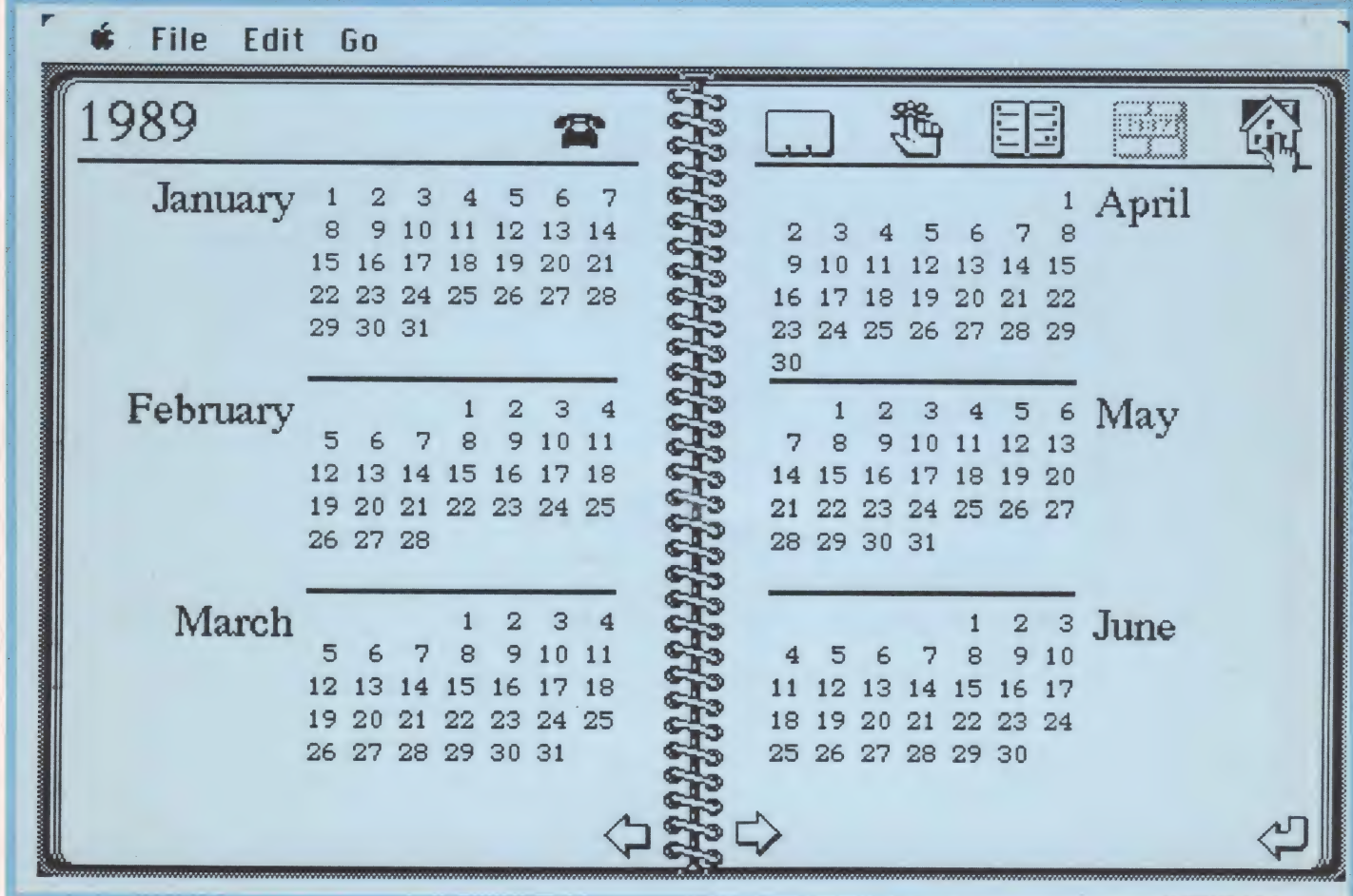
## 1. Preamble

### Back to the Home stack

The Home stack is usually represented by a  icon or any other representation of a house. Click on this icon when you want to go back to the first card of the Home stack. Clicking on the  icon produces the same effect.

Click on the  icon

You are back on the Home stack. This Home stack has several cards, usually four.





## 1. Preamble

### Choosing the User level

# HyperCard

Until now, your menu bar only had three menus (File, Edit and Go) which correspond to a low user level (Typing or Browsing).

You are back on the Home card, to select the last card of this stack.

#### Choose the **Last** command from the **Go** menu

The User Preferences card appears with the "Typing" button selected.

#### Click on the **Painting** button

The tools menu and a "Power keys" box appear.

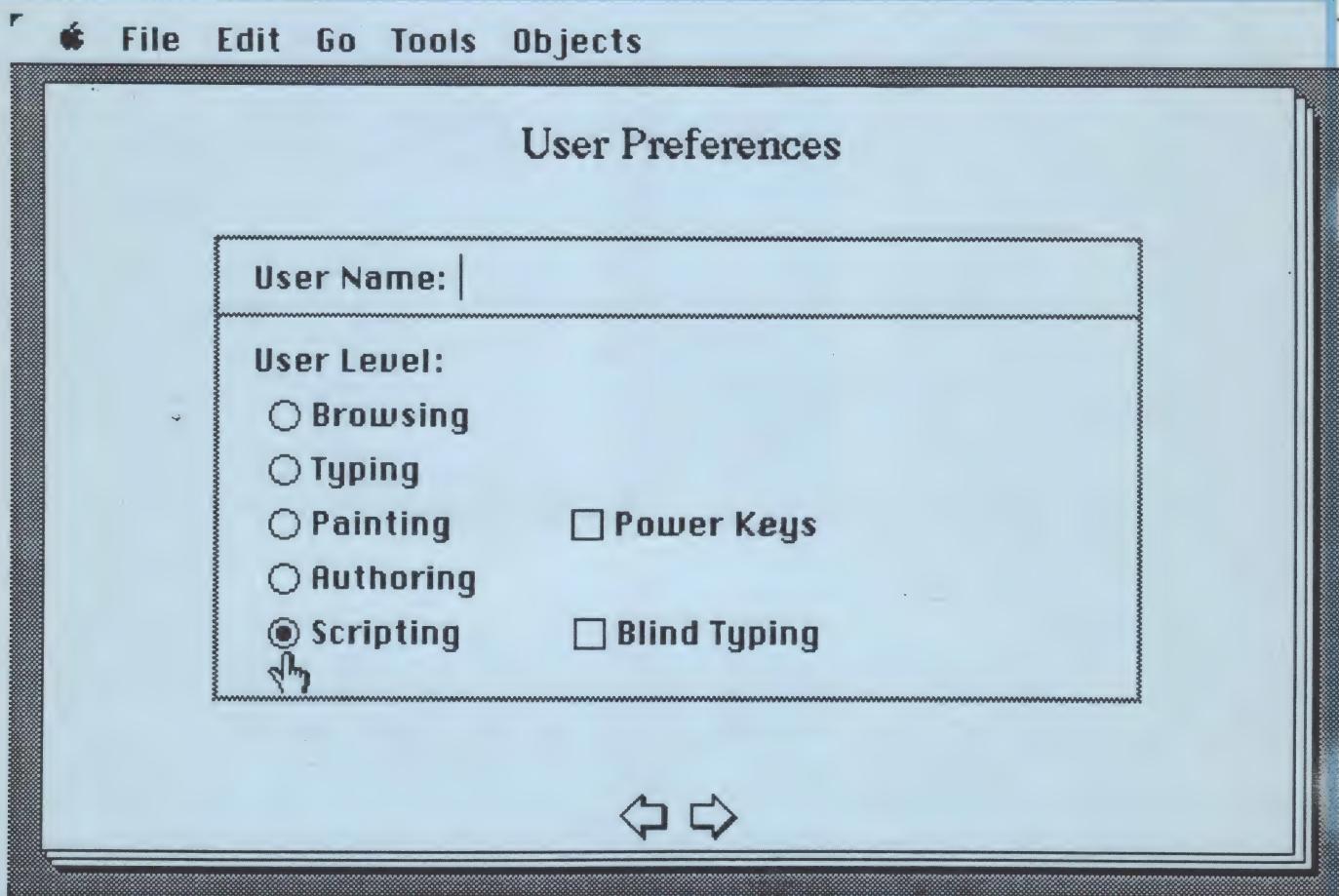
#### Click on the **Authoring** button

The objects menu appears at the top of the screen.

#### Click on the **Scripting** button

A new check box is displayed, called "Blind Typing".

Everytime you increase the level, you have access to more options. The last level, Scripting, allows you to write and edit HyperCard scripts. A script is the name for a program written in HyperCard programming language.





# HyperCard

## 1. Preamble

### Opening a Stack using the File menu

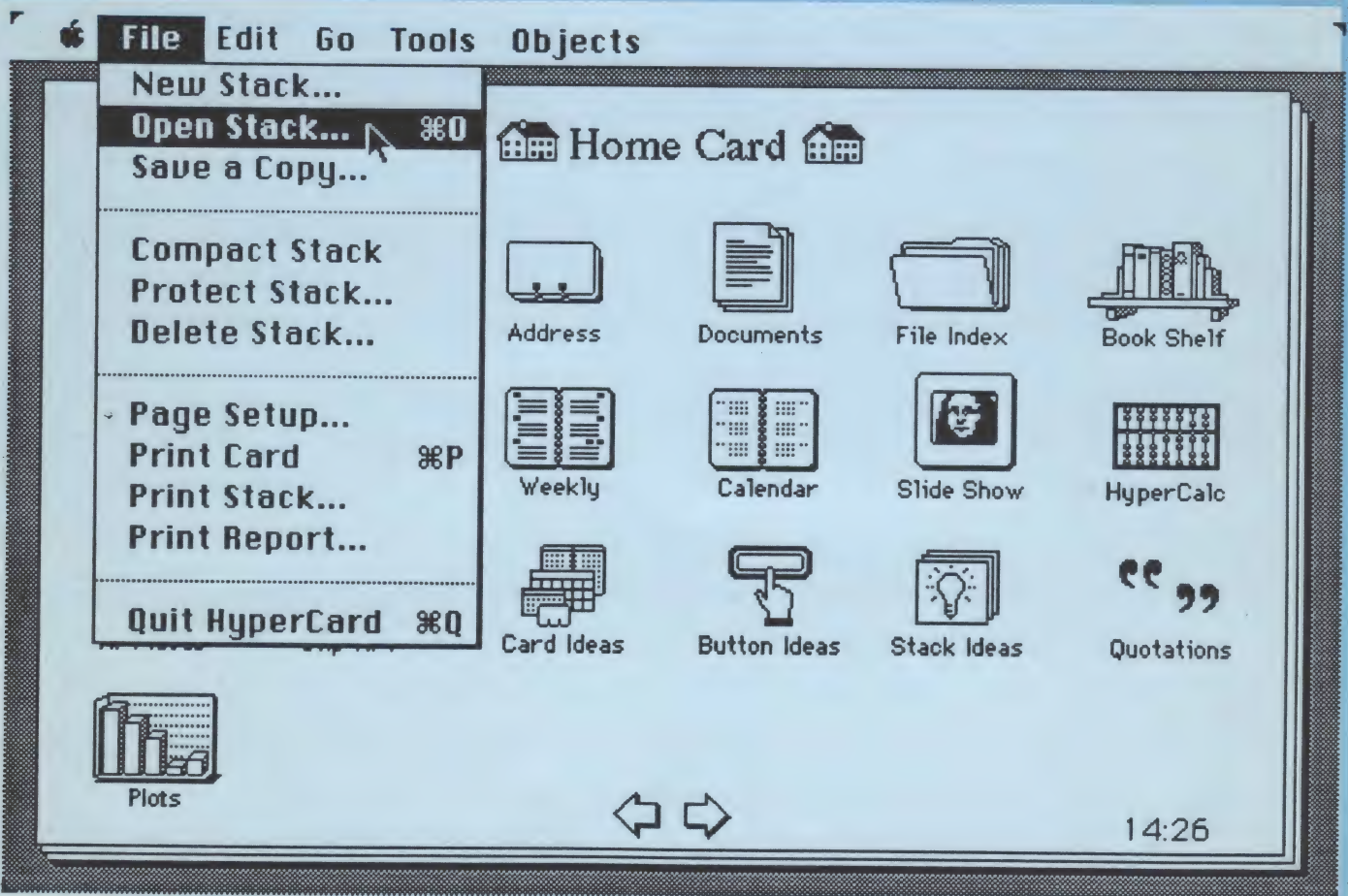
#### Choose **First** from the **Go** menu

When you start HyperCard the first card you see is your master index card, the "Home card." This card gives you access to all your other cards and stacks. To get around in HyperCard, you click the icon, such as the Clip Art button to see pictures, the Help button for explanations on features, etc. You're going to start by exploring the "CIRCUS CLOWNS" stack which contains names of imaginary clowns. This stack is not directly accessible since no icon represents it on the Home Card.

#### Pull down the **File** menu and choose the **Open Stack...** option

The Directory window appears.

#### Choose the "CIRCUS CLOWNS" stack and click **Open**





## 1. Preamble


### The Menu Bar

# HyperCard

You've opened the "CIRCUS CLOWNS" stack and the first card in this stack is on the screen. The card buttons, which will be explained in the next few pages, are displayed at the bottom of the screen.

You'll notice that the HyperCard menu bar is no longer visible. The card fills the entire screen to give you space for the information on your card. You can choose to display the menu bar.

**Hold down the Command key (see Keyboard )**  
**Press the Spacebar to display or hide the menu bar**

 **File Edit Go Tools Objects**

**AVAILABLE CIRCUS CLOWNS**


**Name and address**  
BIMBO BUFFOON  
HIGHWIRE DRIVE  
SAN FRANCISCO







**Agent :**  
Mr BURLESQUE

**Specialities**  
UNICYCLE

**Recent shows**  
HARLEQUIN CIRCUS  
NEVADA

(415) 999 1111







# HyperCard

## 1. Preamble Going to the Last Card

To get around in a stack, you can use the Arrow keys on the keyboard; press the Right Arrow key to move to the next card, press the Left Arrow key to move to the previous card.

In general, the developers create navigation buttons for every stack (You'll see later on when you come to create your own stack, how different it is moving with keys versus moving with buttons).

Using the keyboard to navigate, you go from one card to another following the order of the cards in the stack. Using the buttons, you go from one card to another following the order programmed in the script of each button.

You can go directly to the first card or to the last card in a stack using the options from the Go menu.

**Choose Last from the Go menu**  
(press command-spacebar if necessary to see the menu bar)

You use Last when you want to create a new card at the end of a stack.

### AVAILABLE CIRCUS CLOWNS

#### Name and address

COCO CLOWN

NORTHKNIFE RANCH

10999 DALLAS

#### Agent :

Mr R.J. EWING



#### Recent shows

BIGTOP CIRCUS

GRAND CANYON

#### Specialities

AEROBATICS

(666) 879 4411





## 1. Preamble

### Backgrounds

# HyperCard

At the beginning of this guide we mentioned how a card can be made up of two parts: the background, which contains common elements shared by a number of cards, and the card elements, which are unique to each specific card.

To see the background elements of the cards in this stack:

**Hold down Command and press Spacebar to display the menu bar**  
**Choose Background from the Edit menu**

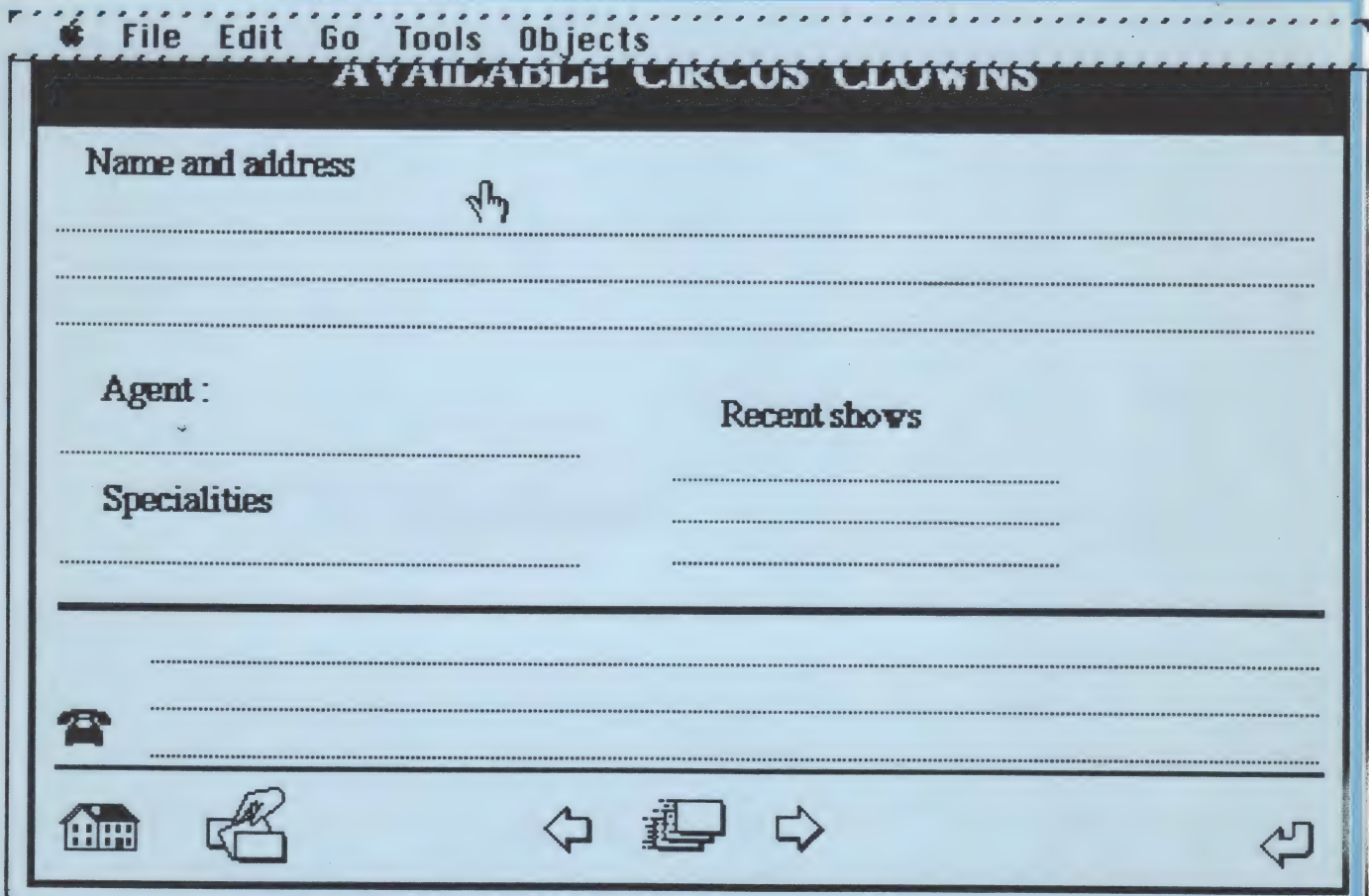
Notice that the menu bar is bordered by diagonal stripes. This lets you know that you're looking at the background.

The titles for each field of text, the borders, and the buttons belong to the background and are common to each card in the stack. The actual names and addresses, phone numbers, etc, of the clowns are unique to each card.

You are going to leave the background and discover the roles of the buttons.

**Choose Background again from the Edit menu**

As you see, the background command lets you switch back and forth between background and card.





# HyperCard

## 1. Preamble Sorting a Stack

The buttons at the bottom of the screen are common to each card since they are on the background. The navigation buttons are represented by directional icons; the House icon, the Previous and Next card (arrows) icons, and the Return icon.

The speedy-looking icon in the middle is the Quick View button that lets you flip quickly through the cards, and the one beside the House icon is the Sort button.



### Click the **Sort** button

A dialog box appears with buttons for sorting by name or by speciality.

### Click the **Name** button

The sort is completed and you are back on the first card of the stack.

The House and Return icons are navigation buttons to take you back to the Home card. Use either one.

Click the  (or the  ) button

### AVAILABLE CIRCUS CLOWNS

**Name and address**

COCO CLOWN

NORTHKN

10999 DAL

**Agent :**

Mr R.J. EW

**Specialities**

AEROBATICS

GRAND CANYON


sorting all the cards of this stack :


Name


Speciality


Cancel


(666) 879 4411
















## 1. Preamble

### Creating a Button

# HyperCard


You're now back on the Home card in the main stack. To go back to the CIRCUS CLOWNS stack, you would have to open it again from here.

When you move the mouse around on the screen, the pointer takes the shape of a hand. This is the Browse tool for "browsing" in cards and stacks.

The Home card contains icons of all the main HyperCard utility stacks (Art Ideas, Slide Show, etc.) and each icon is actually a button. It's on the Home card that you add buttons to open the stacks you create for your own applications.

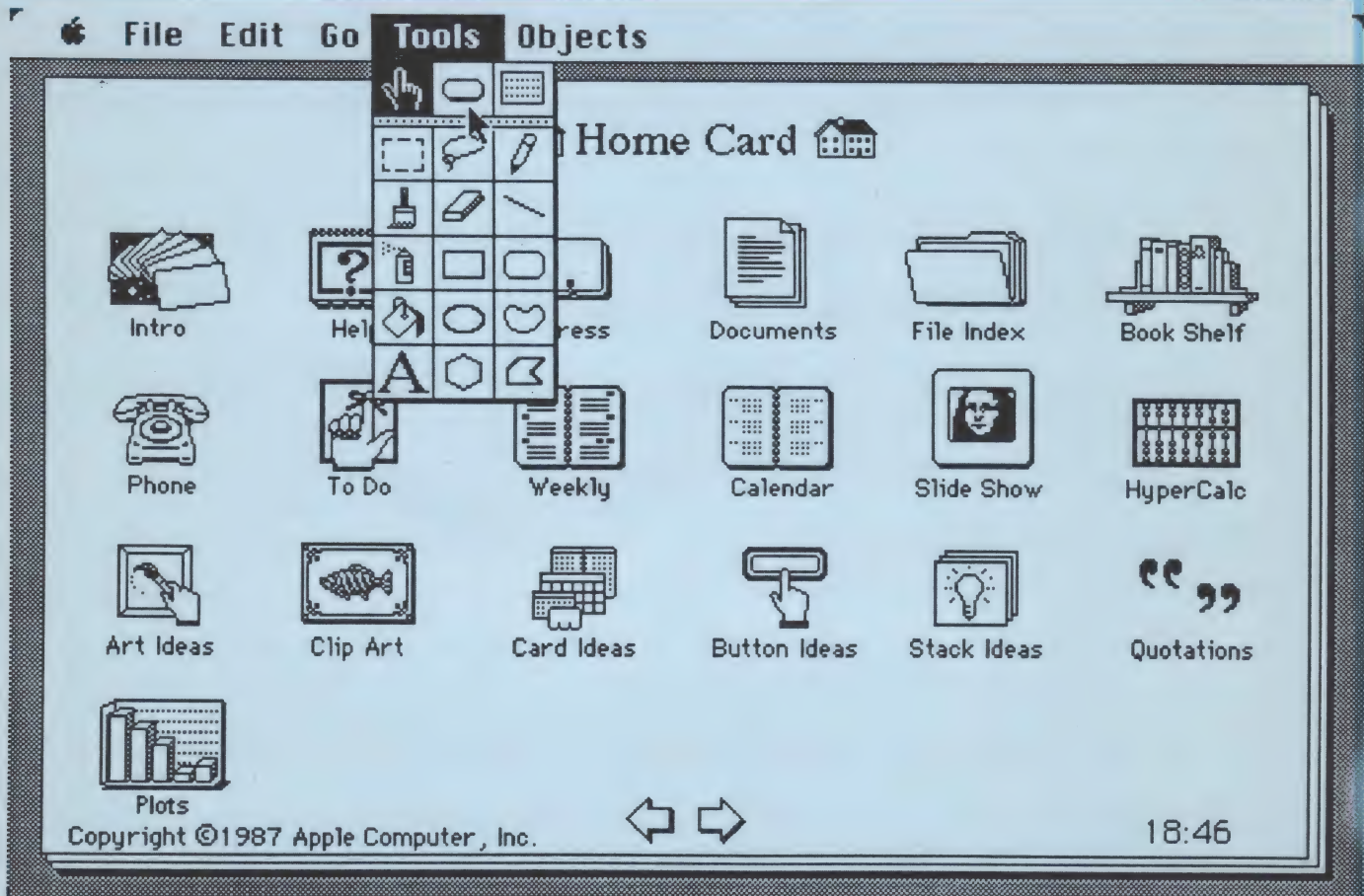
You're going to create a button to give you direct access to the Addresses stack you just left, and name it "Internal".

You have access to four possible modes with the commands in the Tools menu : browsing, painting, button, and field. To create a new button, you need to be in button mode.

Click the **Button** in the **Tools** menu   
Choose **New Button** from the **Objects** menu

A standard rectangular-shaped button appears in the center of the screen.

**Note:** You don't have to click the Button tool to create a new button, since choosing New Button from the Objects menu puts you directly into the Button mode.





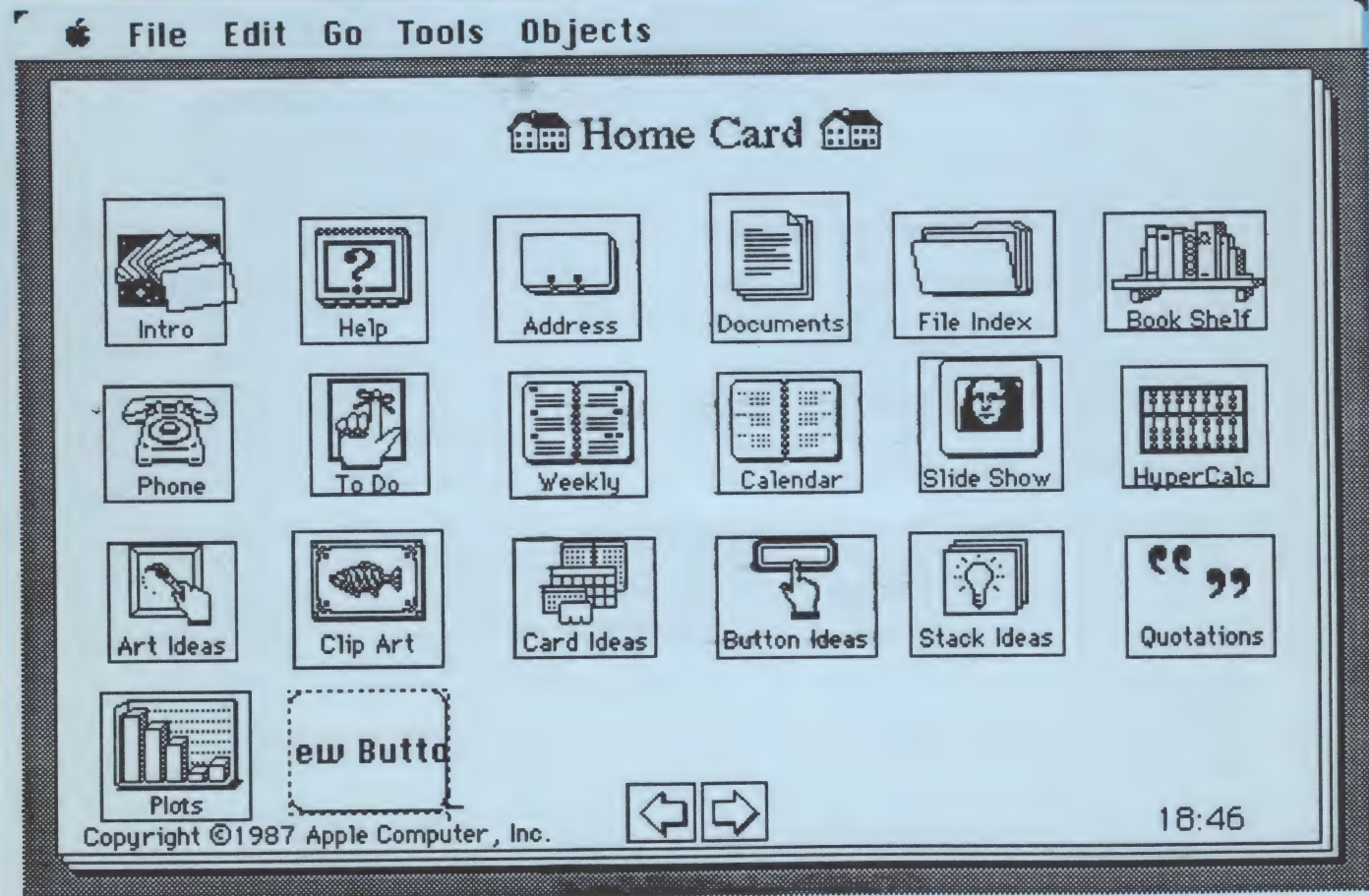
# HyperCard

## 1. Preamble Modifying a Button

The new button is already selected when it appears. Each button has a name, ID number, shape, border, style, as well as a script indicating what the button does. This script is a series of instructions in HyperTalk, the HyperCard programming language which you will study later.

You're going to move the button and resize it to the dimensions shown in the illustration below.

Click the center of the button and drag it into place  
Click one of its corners and drag to resize the button





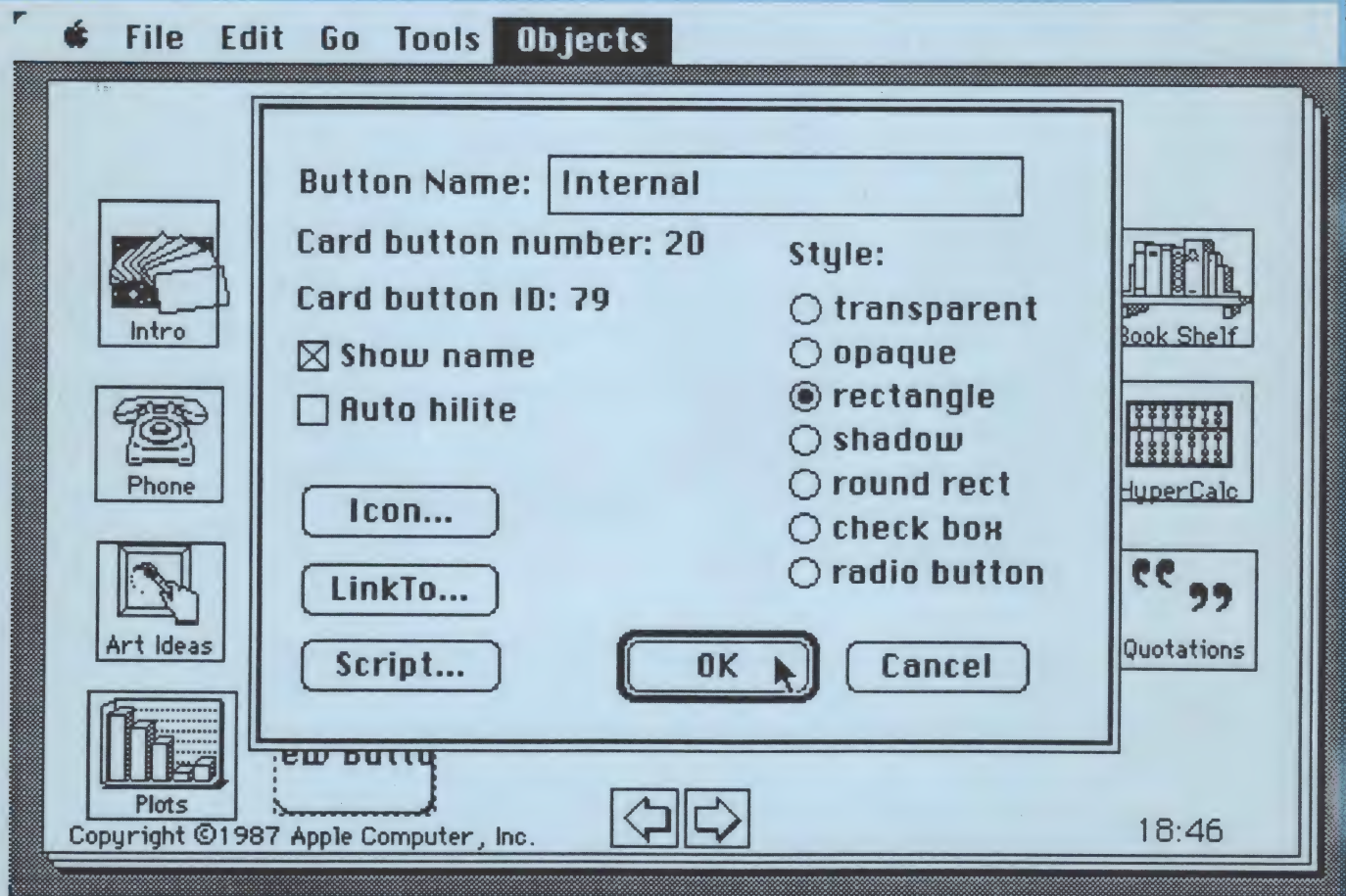
## 1. Preamble

### The Characteristics of a Button

# HyperCard

Each new button has its own characteristics, which you define yourself. You are now going to define its shape, and give the new button the name "Internal." Then you will write the script.

- Choose **Button Info** from the **Objects** menu
- (or double-click the button to bring up the dialog box)
- In the **Button Name:** field, type **Internal**
- Click the **rectangle** option
- Click the **Script...** button





You now want to define the script of the button, that is, what the button actually does. HyperCard gives you access to its programming language HyperTalk, for defining button actions. In a HyperTalk script, you define at which point a procedure or a part of the script should be executed. In a button script, for instance, the action happens when you click the particular button. Since the "on mouseUp" and "end mouseUp" conditions are offered by default when you open the script dialog box for new buttons, you just need to specify the action. Here, open the stack "CIRCUS CLOWNS" that contains the names of the clowns. Type the instruction `go`, followed by the name of the stack in quotes.

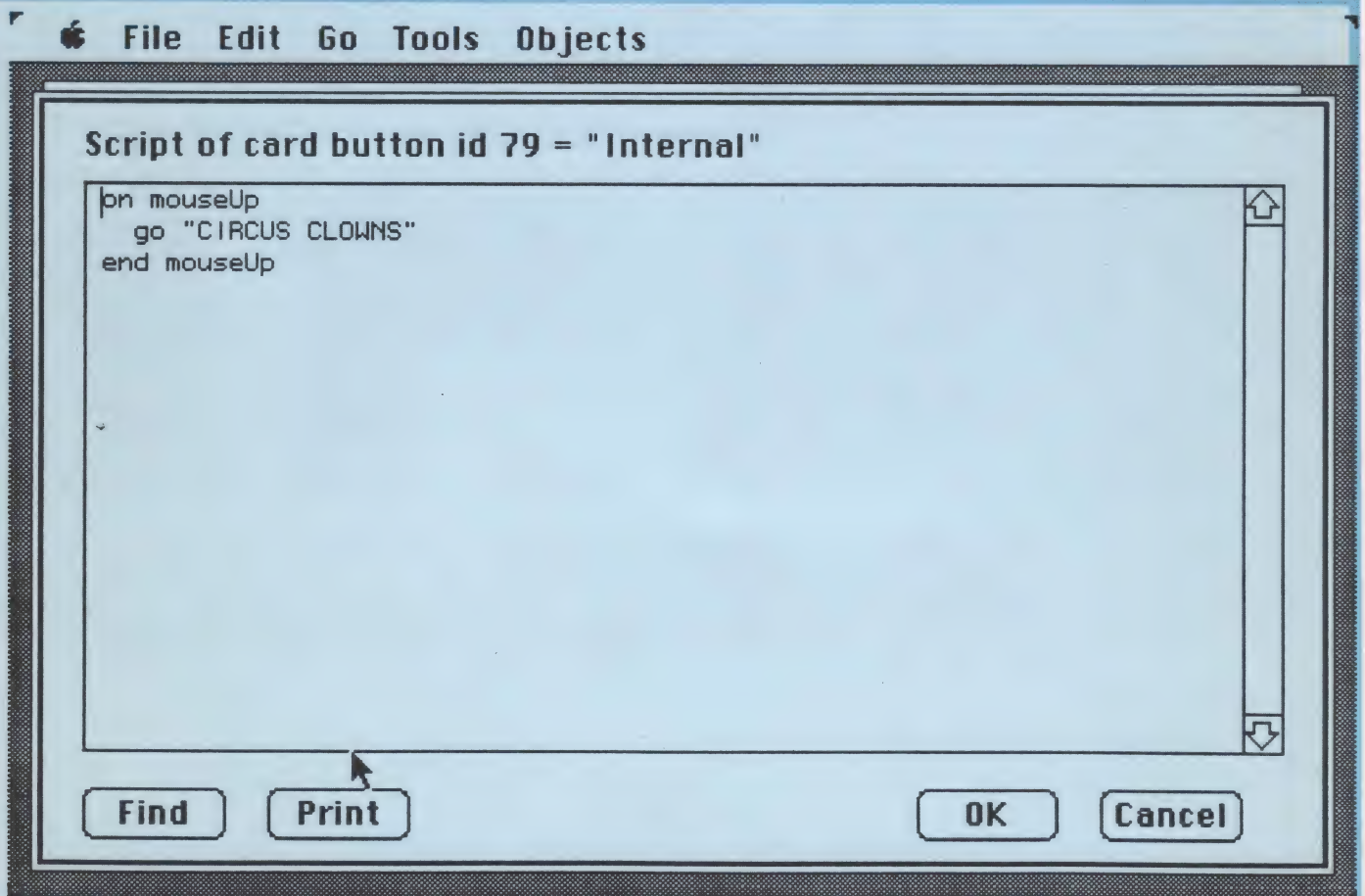
**Type `go "CIRCUS CLOWNS"`**

**Click OK to confirm the script**

*on mouseUp* means when the mouse is clicked and released on the button, Hypercard carries out the actions that follow.

*go "CIRCUS CLOWNS"* means : go to the CIRCUS CLOWNS stack and open it.

*end MouseUp* means that the action is completed.





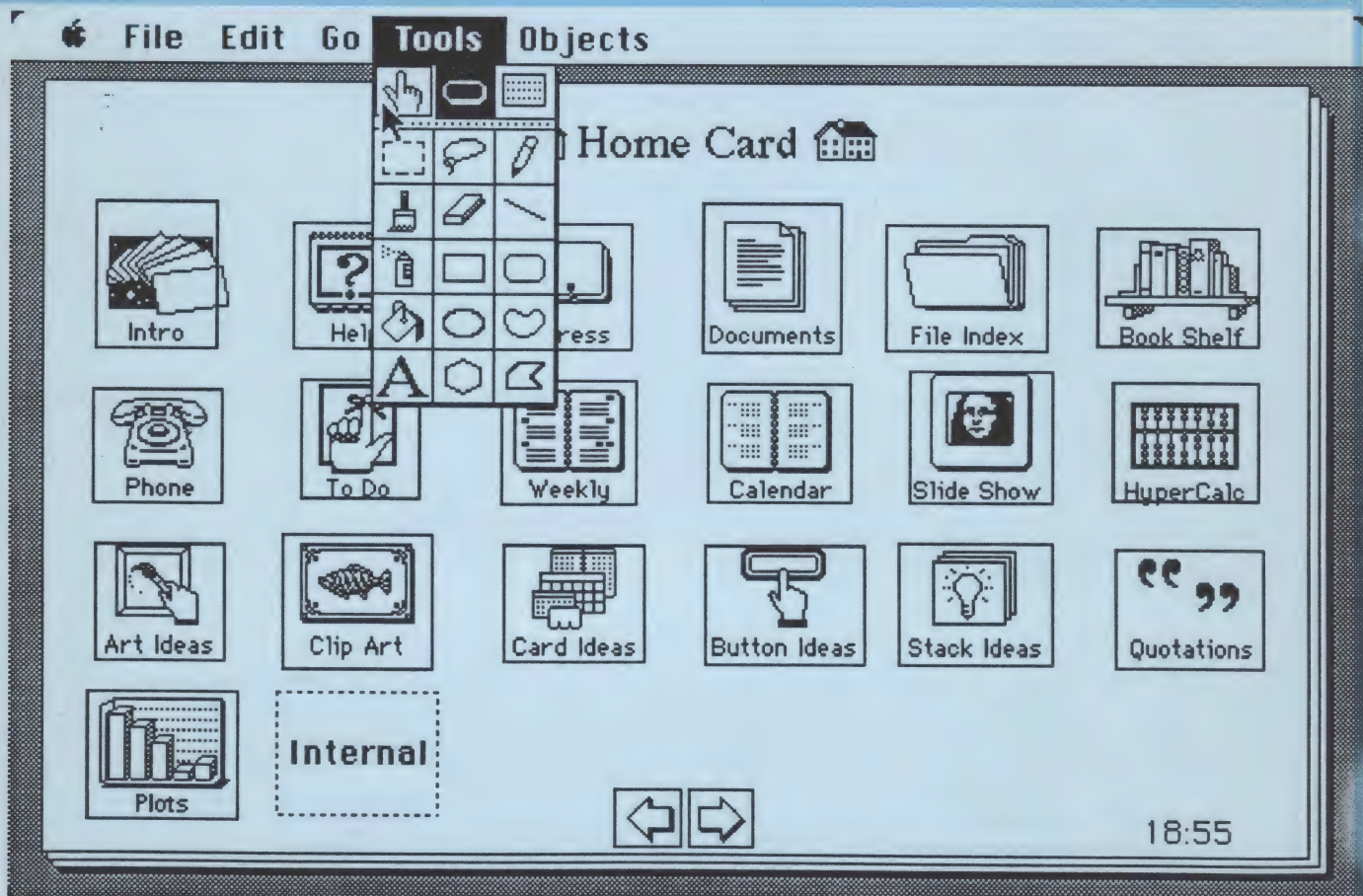
## 1. Preamble

### Using the Button

# HyperCard

To define the style of a new button as well as its script, you need to be in Button mode. To use the button, you need to select the Browse tool (hand icon.) Both these modes are attainable from the Tools menu. Remember the four modes are Browse, Button, Field, and Paint. You select each tool according to what you want to do.

Select the Browse tool from the **Tools** menu  
Click the Internal button





# HyperCard

## 1. Preamble The Message Box

You are on the first card of the **CIRCUS CLOWNS** stack again. You can use the left and right Arrow keys on the keyboard or the navigation buttons (left- and right-pointing Arrow icons on the screen) to get around in this stack. The result is the same. However, navigating by arrow keys or by clicking buttons in HyperCard are two quite different operations. Arrow keys take you to the next or previous card, according to the order in which the cards are arranged in the stack. When you click the buttons, you follow the order programmed in the button's script.

You use the Message Box to send messages to HyperCard. For example, you're going to write a message to tell HyperCard to go to the last card in the stack. The language is simple, but to go to a card in any one stack you type "go to" rather than just "go." Make the Message Box appear on the screen and type the message:

**Choose Message from the Go menu**  
**(or press Command-M)**  
**Type go to last card**  
**Press Return to confirm**

🍏 File Edit Go Tools Objects

### AVAILABLE CIRCUS CLOWNS

#### Name and address

BIMBO BUFFOON

HIGHWIRE DRIVE

SAN FRANCISCO

#### Agent:

Mr BURLESQUE

#### Specialities

UNICYCLE

#### Recent shows

HARLEQUIN CIRCUS

NEVADA

(415) 999 1111



☐ go to last card



## 1. Preamble

### Searching Text

# HyperCard

The information on the address cards is not structured like records in a classic address file. When you want to find all the cards in a stack containing, for example, the same zip code, HyperCard will search for the text string not only in the zip code fields but in any field on the card (phone number, street number, etc.)

To search for text:

- Press Command-Spacebar to display the menu bar
- Choose Find... from the Go menu (or press Command-F)
- Type CIRCUS between the quotation marks
- Press Return to confirm

The first matching text string CIRCUS is found on the open card. In fact, the search starts with the card you're currently viewing.

File Edit Go Tools Objects

### AVAILABLE CIRCUS CLOWNS

#### Name and address

JACK PUDDING  
COMEDY ROW  
NEW JERSEY

#### Agent :

Mr PIERROT

#### Recent shows

PUNCH & JUDY  
JAMAICA

#### Specialities

JUGGLER

(235) 888 4444



find "CIRCUS"



# HyperCard



## 1. Preamble Searching Text in the Next Cards

**Press Return to repeat the search**

HyperCard finds the next occurrence and draws a box around the matching text. The matching text may be the beginning of a word or a whole word. Since the Message Box still contains the same text, you can press Return to continue searching like this, beginning with the card following the one you're viewing. If there is no more matching text to be found, your Macintosh will beep.

So far you've learned how to navigate in a stack, how to execute a direct order, and what a card is composed of. Using this stack, you have familiarized yourself with HyperCard terminology: stack, card, background, field, button, and some HyperTalk programming language. Now go back to the Home card.

**Close the Message Box (click in the square box as below)**

Click the  icon or  arrow to go to the Home card

### AVAILABLE CIRCUS CLOWNS

#### Name and address

COCO CLOWN

NORTH KNIFE RANCH

DALLAS, TEXAS 10999

#### Agent :

Mr R.J. EWING

#### Recent shows

BIGTOP CIRCUS

GRAND CANYON

#### Specialities

AEROBATICS

(666) 879 4411



find "CIRCUS"



## 1. Preamble

### Opening Another Macintosh Application

# HyperCard

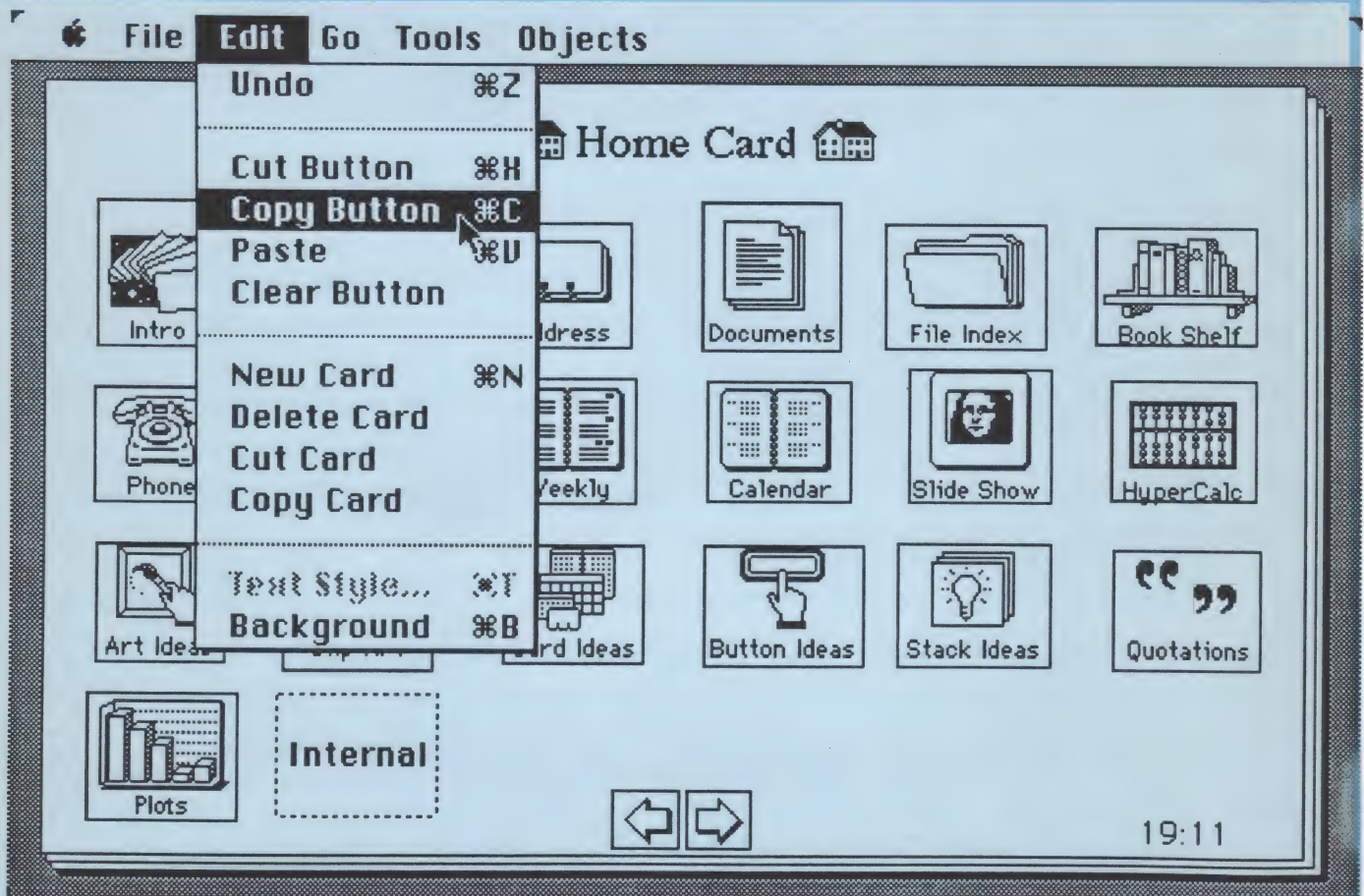
The Home card is in a sense your control tower. From it you have access to all the standard utility stacks, and it is where you create new buttons to access your own stacks (as you just saw.) But you can also open other applications from HyperCard such as MacWrite, to create a document, or open an existing document created with another Macintosh application.

It's this last function that you're now going to test by creating a button to open a MacWrite document called "MyText." This new button will have the same characteristics as the button "Internal" that you created earlier. Only the name and the script will be different. You could create a new button using the same method as before. But you can also Copy/Paste the existing button and then simply change the name and the script.

Select the Button tool from the **Tools** menu

Click the button **Internal**

Choose **Copy Button** from the **Edit** menu





# HyperCard

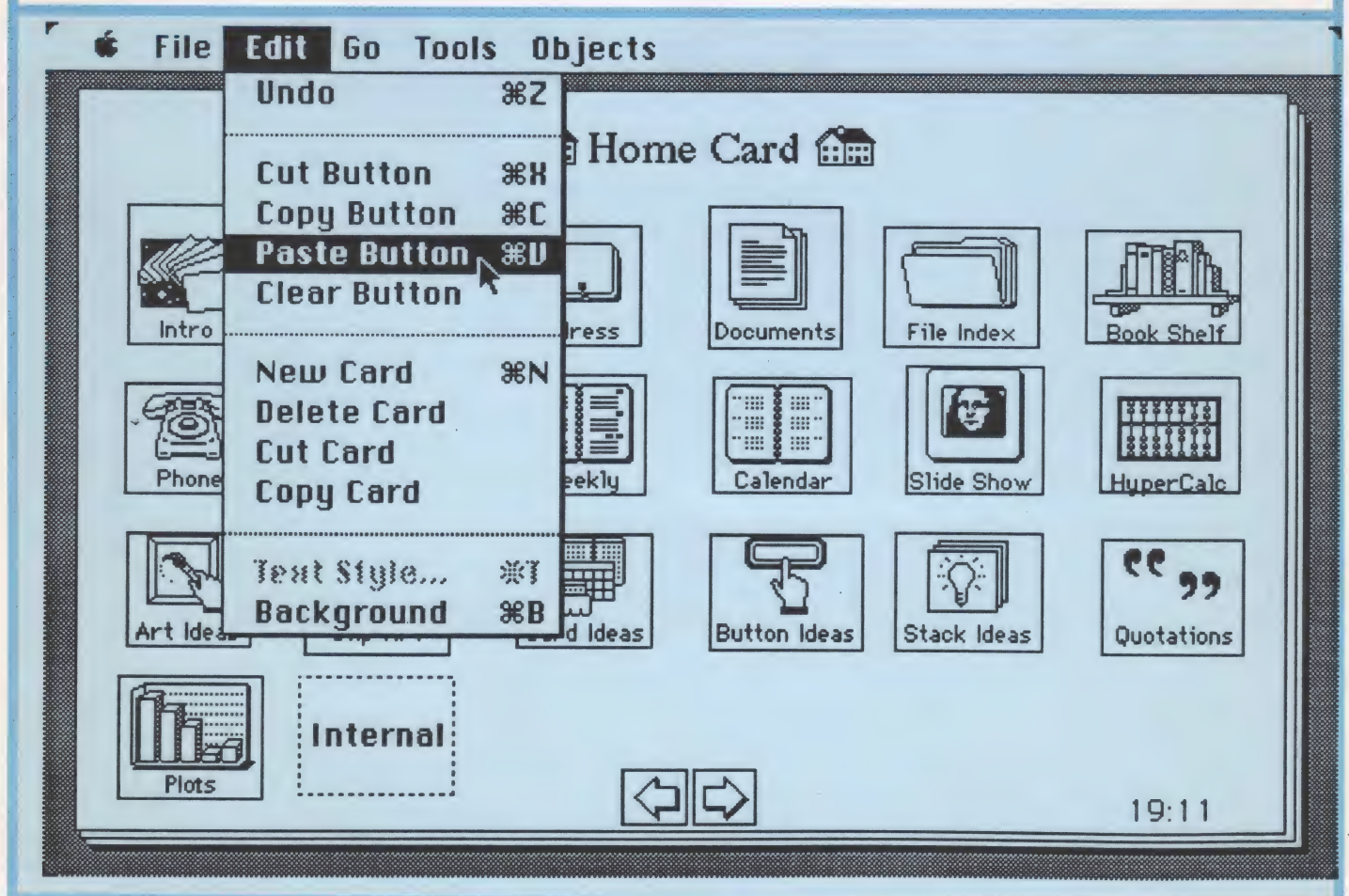
## 1. Preamble Copying/Pasting a Button

You've probably noticed how the options in the menus change depending on which mode you are in. In Button mode the menu shown below appears.

You've copied the button Internal, now you want to paste it on the Home card. The new button will be pasted on top of the copied button.

- Choose Paste Button from the Edit menu**
- (Or press Command-V)**
- Click the Internal button and drag the button to the right**

This button will be called External and will be used to open a document outside HyperCard.





## 1. Preamble

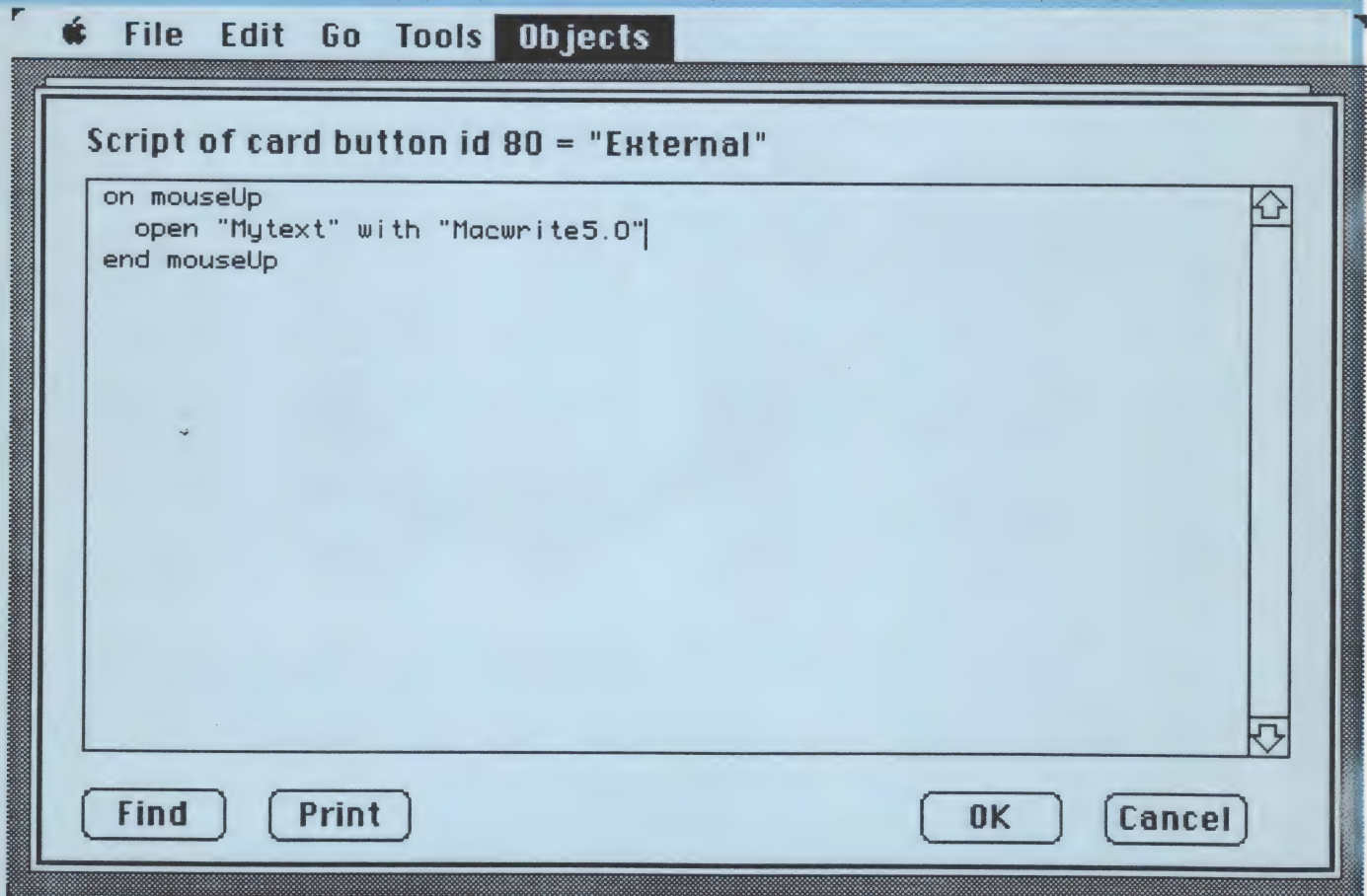
### Parameters for Opening an Outside Application

## HyperCard

Now you can rename the button and change its script. To open an outside application, you have to specify the name of the document and the application that originally created the document (in this case MacWrite5.0.) Spaces between characters and other notations such as version number must be respected when typing the script command. MacWrite5.0 is written without spaces, so you need to write it in the same way to avoid problems.

If you don't have MacWrite, then adapt the script to open your normal word processing program.

- Click the new button **Internal** to select it
- Choose **Button Info** from the **Objects** menu  
(or double-click the button)
- Type the name **External**
- Click the **Script...** button
- Replace the command: go "CIRCUS CLOWNS" by:  
open "MyText" with "MacWrite5.0"
- Click **OK**
- Select the **Browse** tool from the **Tools** menu
- Click the button **External** to test it





# HyperCard

## 1. Preamble Deleting the Buttons

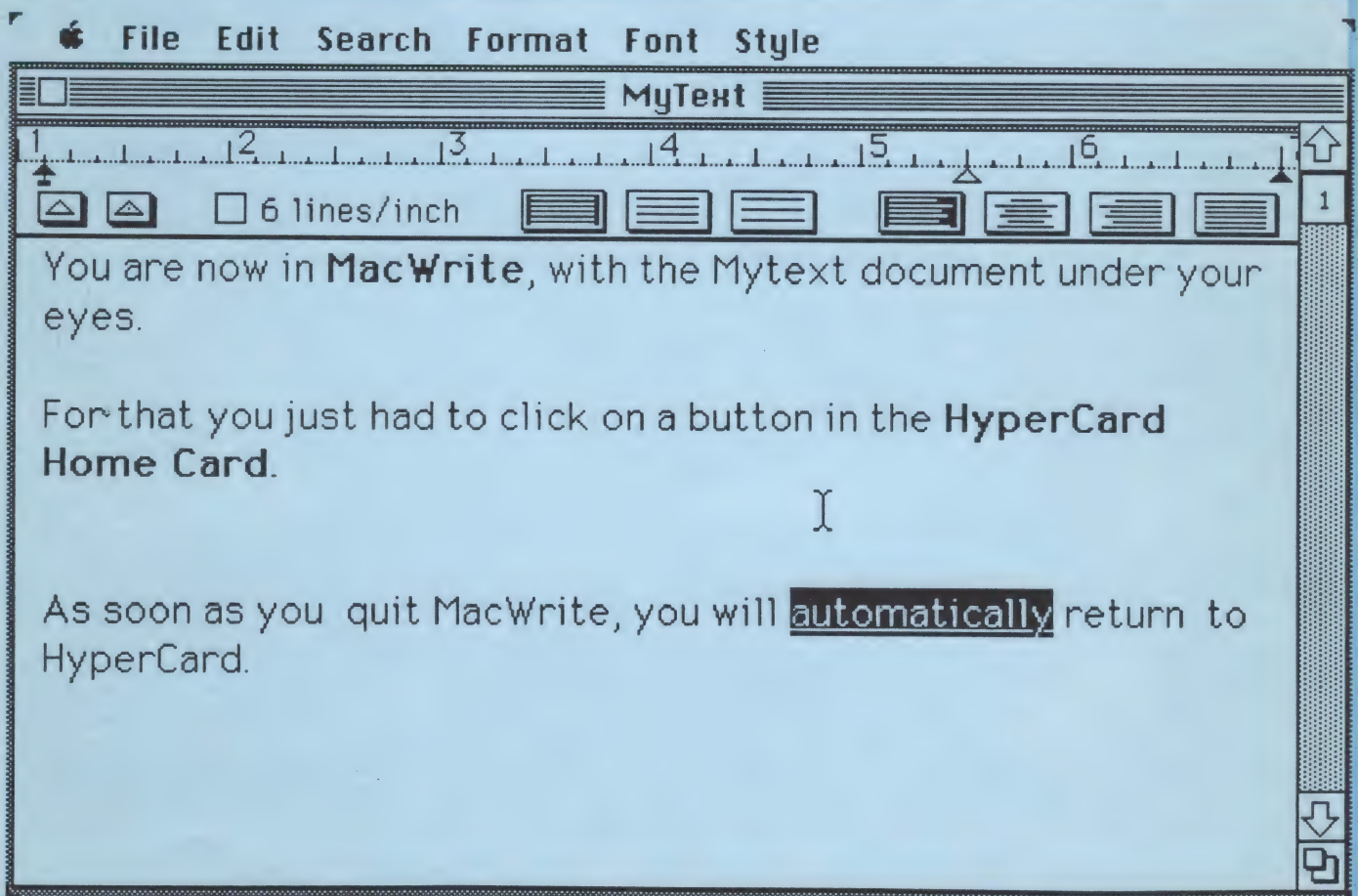
You are now in MacWrite with the document MyText open on the screen. You can edit this document, close it, or consult another MacWrite document.

In fact, it's just as if you had opened MacWrite directly, the big difference being that now when you close MacWrite you will go straight back to the place you left off in HyperCard and not to the Macintosh finder. You can likewise create a branch to any Macintosh application from a stack in HyperCard.

Navigating around the Calendar and CIRCUS CLOWNS stacks and creating the "Internal" and "External" buttons gave you the opportunity to get familiar with the basic HyperCard notions. In the next chapters, you'll go on to create a tree-like structure of information in HyperCard and see how to use more of the HyperTalk programming language. For now, quit MacWrite, return to the Home card, and delete the two buttons you created which are no longer needed.

### Quit MacWrite

In Button mode choose **Cut Button** from the **Edit** menu  
to delete the buttons Internal and External  
Select the Browse tool from the **Tools** menu





# HyperCard



Using the Background of an Existing Stack  
Naming a Stack  
Returning Home from Pracstack  
Pasting a Picture for a Button  
Creating a Transparent Button  
The Pracstack Button Script





## 2. Creating Pracstack

### Using the Background of an Existing Stack

## HyperCard

To get to know how to use Hypercard and its language HyperTalk, you're going to create a stack which will allow the user to visit the countries bordering the United States, visit the United States state by state, then one state county by county, and finally follow a highway within a state. This stack will be called Pracstack.

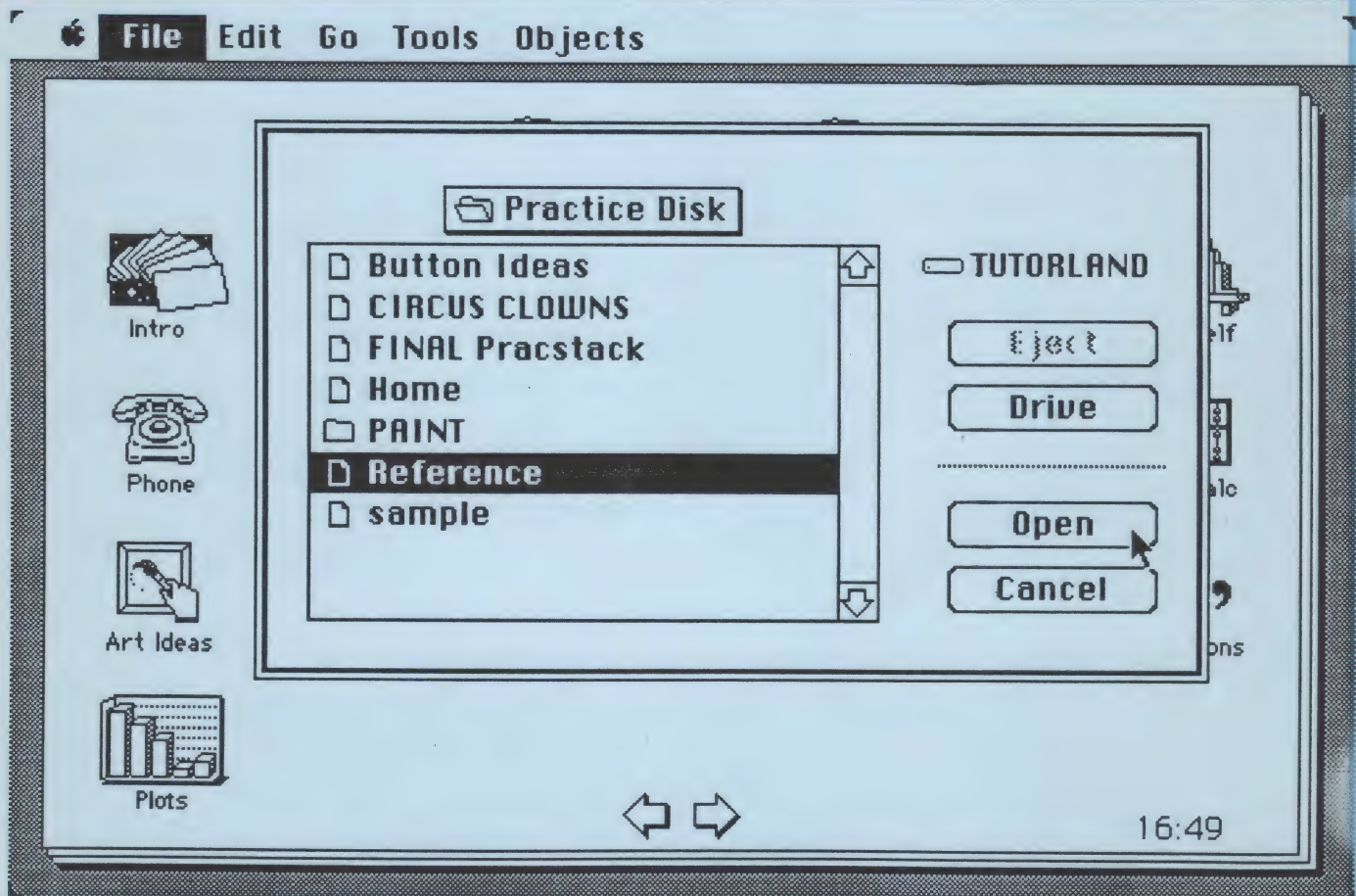
How do you begin to create a stack? The easiest way is to look for an existing stack with characteristics close to what you have in mind. If you find one, you can create your model from the "background" of this existing stack. Hypercard is perfect for Mecano-style building, thus avoiding the stress of starting from scratch on a blank page.

You're going to use the background objects of an existing card in the stack Reference which is on the practice disk.

**Choose Open Stack... from the File menu**

**Select the stack Reference**

**Click Open**





A card in the stack Reference is open on the screen. The background you want to use is already created. Now you can create your stack Pracstack.

### Choose **New Stack...** from the **File** menu

A Directory dialog box appears where you enter the name of the new stack. The new stack can be created with a blank background (you'd start from scratch), or with a background copied from the currently open card, including buttons and button actions.

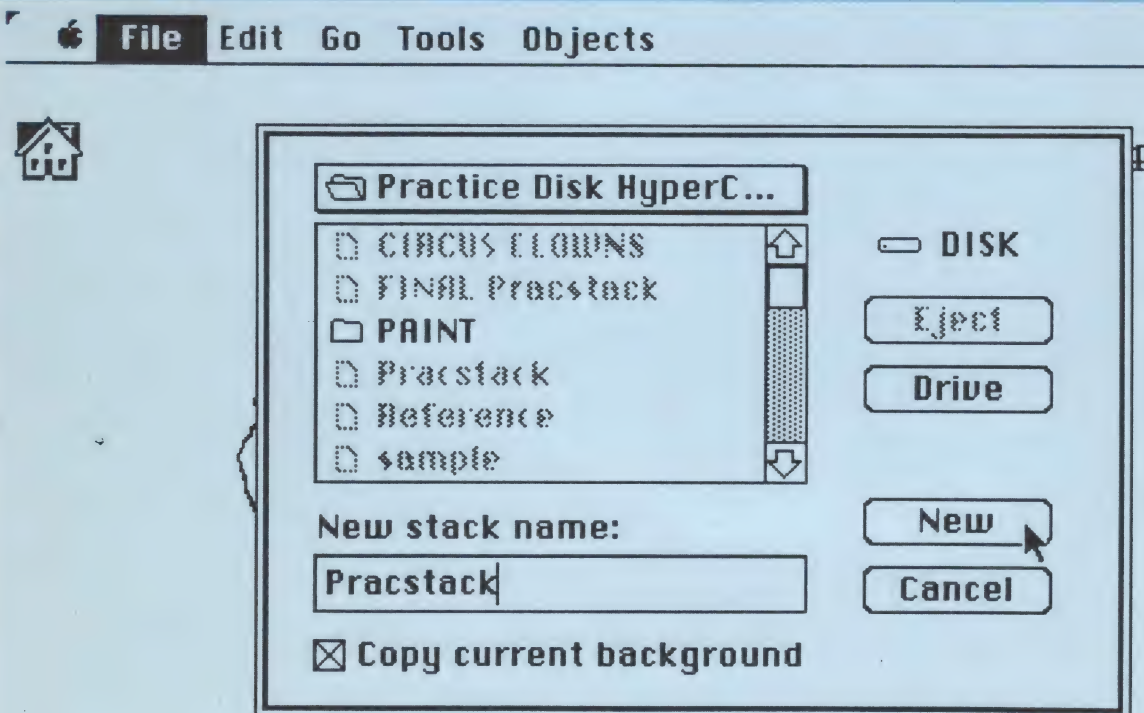
The background of this card contains a House icon to go back to the Home card. You're going to need this button to enable you to return to Home from your Welcome card, so check the "Copy current background" box.

Type the name Pracstack

Click the box **Copy current background**

Click **New**

Don't hesitate to use what already exists with Hypercard.





## 2. Creating Pracstack

### Returning Home from Pracstack

## HyperCard

You've created the first card in Pracstack. This will be the "welcome" card from which you can return to the Home card using the House button.

You saw before that you need to create an access button to your stack from the Home card.

Click the  button (or Command-H)

You're back at Home.

File Edit Go Tools Objects



USA Map






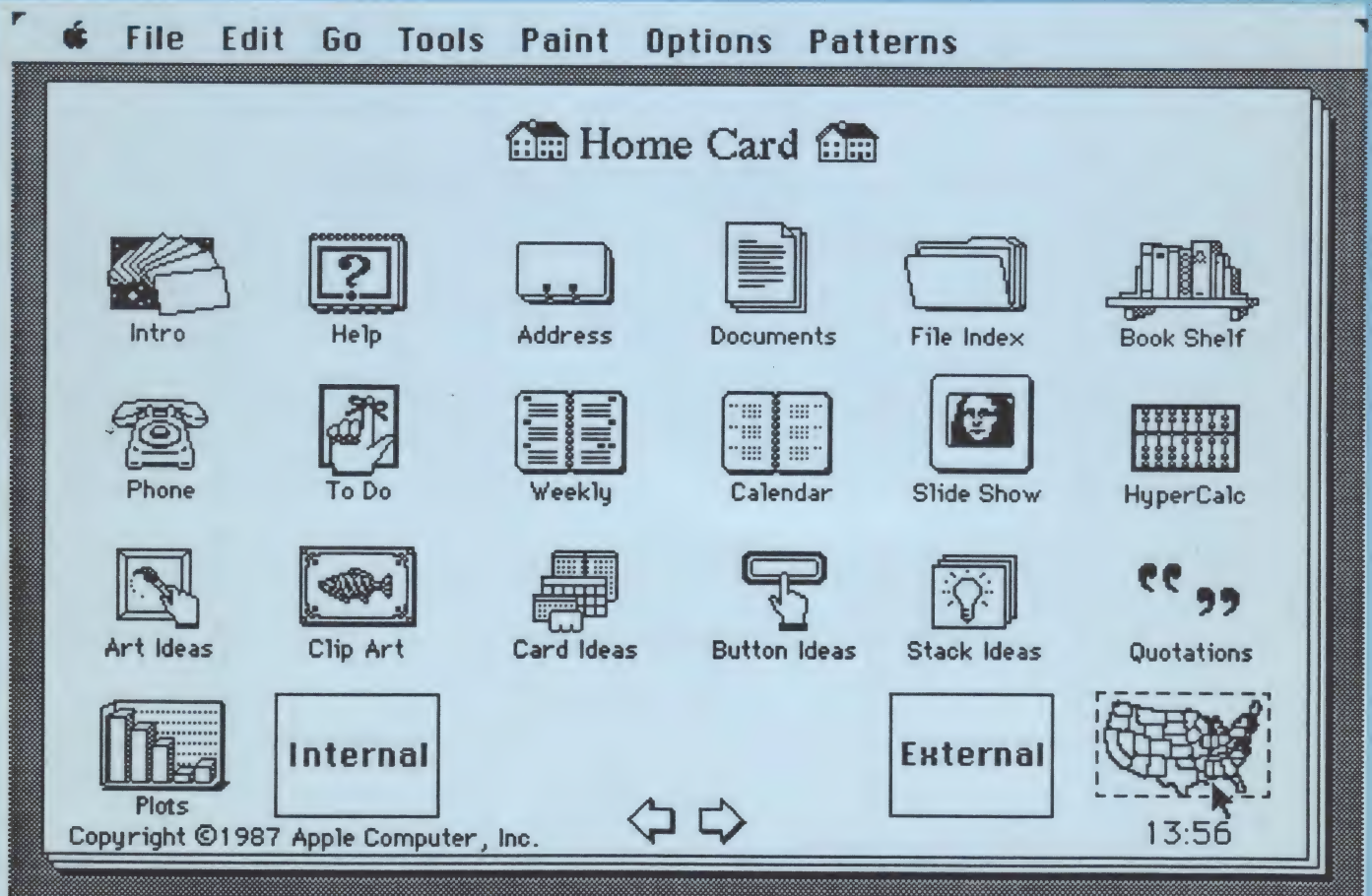
# HyperCard

## 2. Creating Pracstack Pasting a Picture for a Button

You've seen how a button has physical characteristics as well as a script. You can give a button different types of borders, display its name, or use one of the predefined HyperCard icons as a button (the choice appears if you click Icon... in the Button Info dialog box). You can also draw your own picture to personalize your button. Whatever kind of picture it is, the purpose is to give the user a visual indication of what the button does. There is one important difference however; when you use an icon the picture and button are combined in one unit, but with a Paint-type drawing the button is only superimposed on the picture and if you move one you have to move the other separately.

With Pracstack, you'll be taking a trip around North American countries, and the U.S.A., state by state. The "welcome" card will be a map of the United States. Since there isn't a HyperCard icon suitable for this, you're going to paste a Paint-type picture from the Scrapbook and create a transparent button on top of it.

- Open the Scrapbook from the  menu
- Find the map picture shown below
- Choose **Copy** from the **Edit** menu
- Click the Scrapbook close box
- Choose **Paste Picture** from the **Edit** menu
- Drag the picture into place (see below)





## 2. Creating Pracstack

### Creating a Transparent Button

# HyperCard

Now create a transparent button, without displaying its name, and position it on top of the button picture.

Select the Button tool from the **Tools** menu

Choose **New Button** from the **Objects** menu

Position and resize the button to cover the picture (click-drag)

Double-click the button

Click the **transparent** option and uncheck the **Show name** box

Click **Script...**





To finish your button, you just need to write its script. Give it the simple order to go to Pracstack.

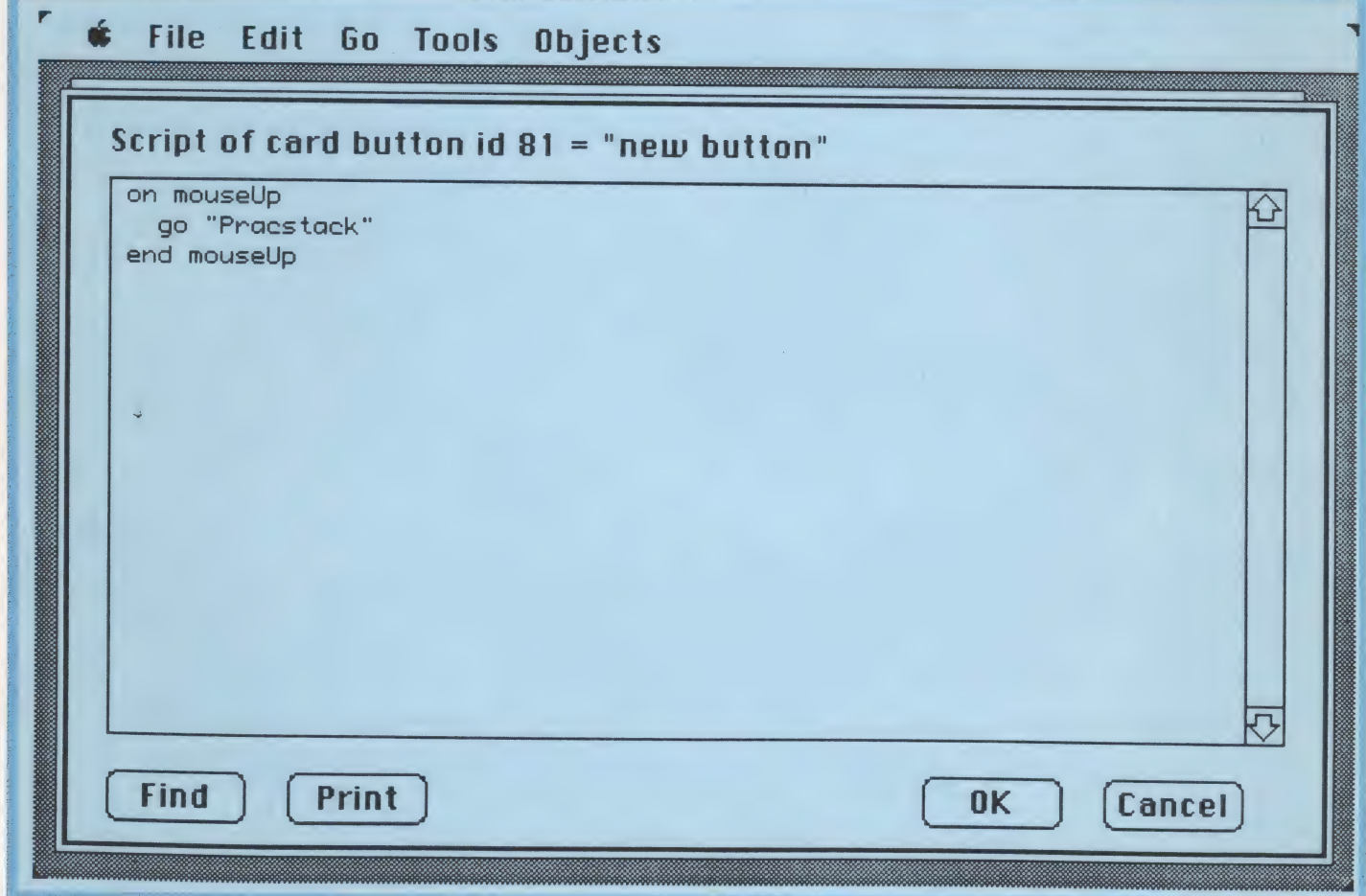
When you've finished defining your button, don't forget to switch to Browse mode (in the Tools menu) to be able to test the button.

**Type the script: go "Pracstack"**

**Click OK to confirm**

**Switch to Browse mode**

**Click the button to test it**





# HyperCard



- Opening the Sample Stack
- Copying a Card
- The Recent Command
- Moving with Recent
- Pasting from the Clipboard
- Paint Mode
- Removing a Picture
- Button Mode
- Naming a Card
- Optional Display of a Field
- Field Characteristics
- Importing a Picture
- Importing a Paint Document from Disk
- The Select All Command
- Making a Picture Transparent
- Naming a Card
- Naming a Field
- Entering Text in a Field





### 3. Navigating by Country

#### Opening the Sample Stack

## HyperCard

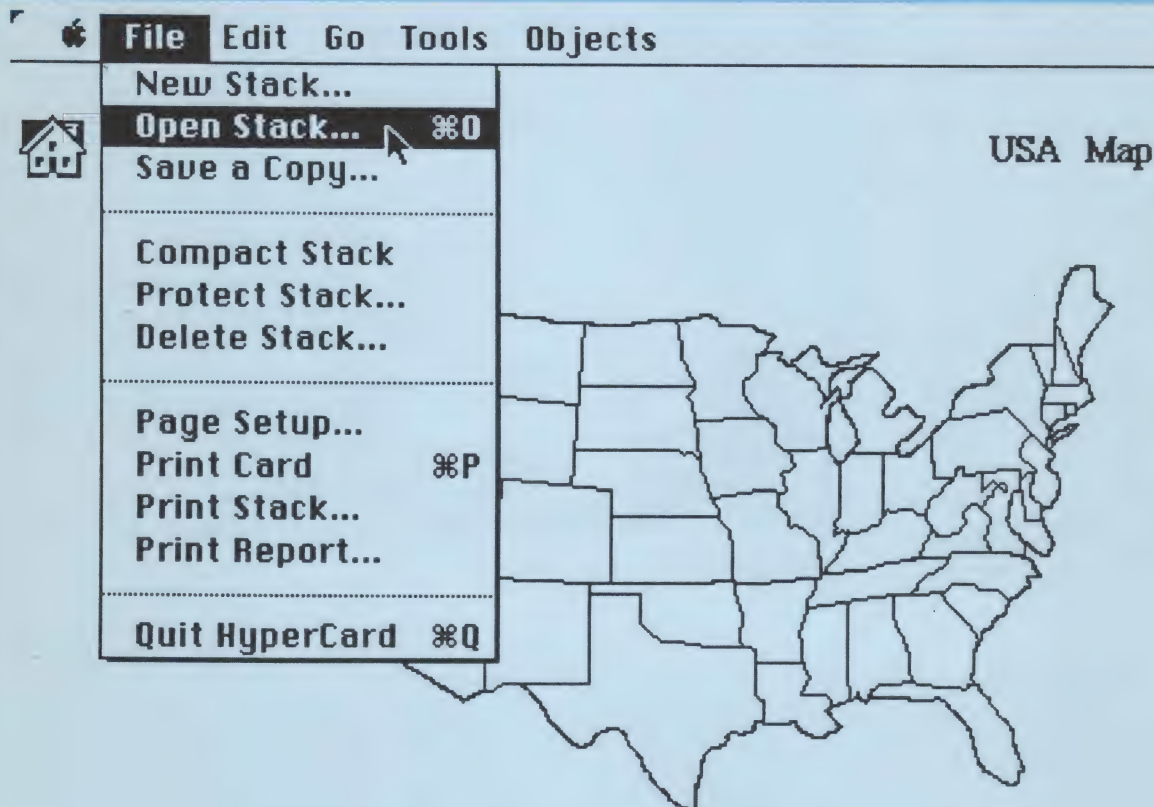
You've created the Welcome card as the first card in your new stack, as well as its activation button on the Home card. Now you're going to build the part of the stack that will let you visit the countries bordering the United States. You need to create the maps of these countries. Each card will contain a MacPaint drawing of the country, a Return button linking it to the Welcome card, and other HyperCard objects which you'll be discovering soon.

Are you going to use the Welcome card background for all the other cards? If you do, the Welcome card will have the Return button on its background. As this button's function is to return the user to the Welcome card, it would have no use on the card itself. So, why not use a different background for these cards?

Again, the easiest way is to copy a suitable existing background from another stack. The Sample stack will serve this purpose.

**Choose Open Stack... from the File menu (Command-O)**  
**Double-click Sample**

Everything you place on the background will feature on every card of the stack.





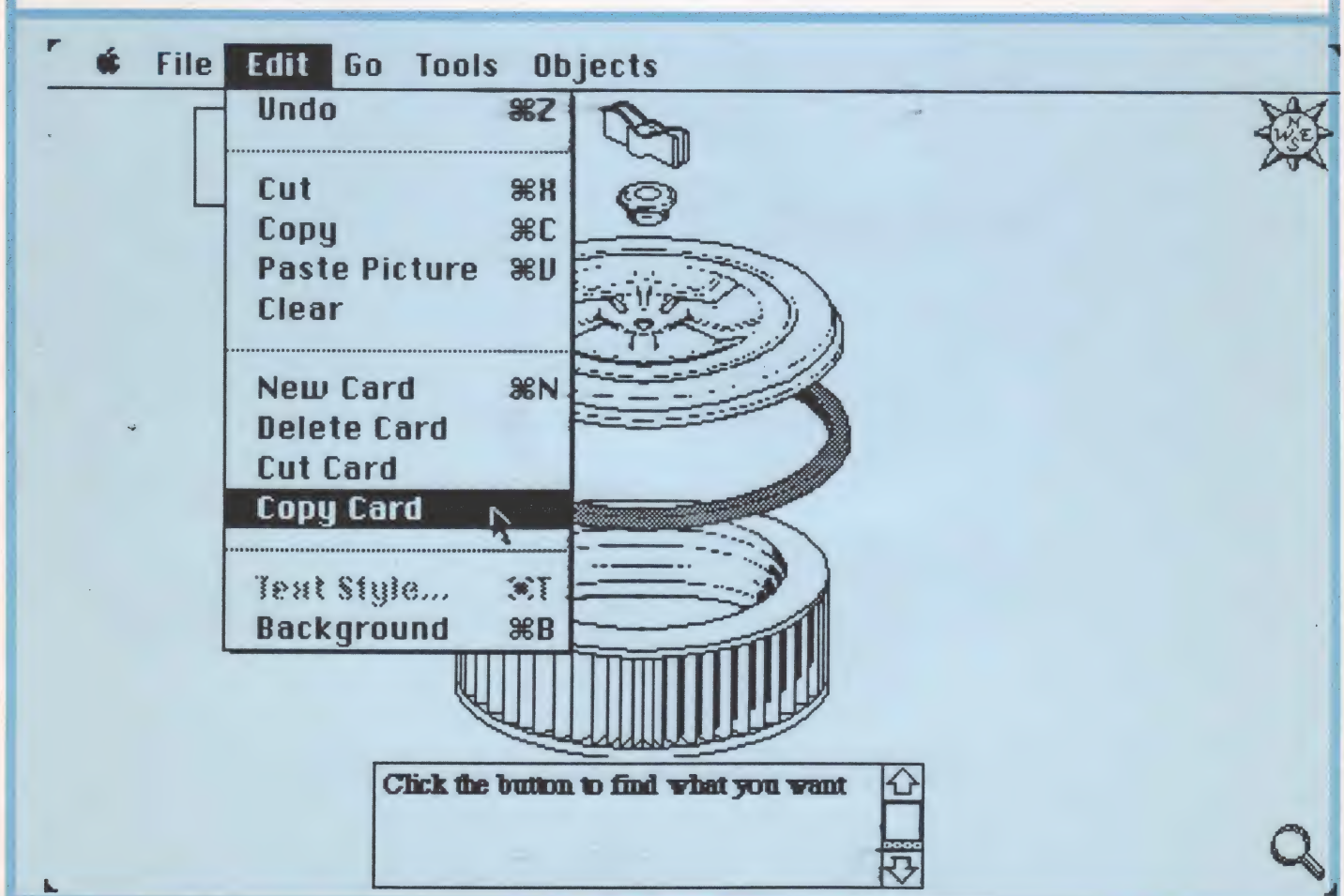
# HyperCard

## 3. Navigating by Country Copying a Card

You can make a copy of this card and transfer everything associated with it, background, text, buttons, etc. via the Clipboard to your new stack. You will then have two cards in Pracstack with different backgrounds.

### Choose Copy Card from the Edit menu

With the Copy/Paste method, you'll transfer the background you want, along with all the other attributes to the new card.





### 3. Navigating by Country

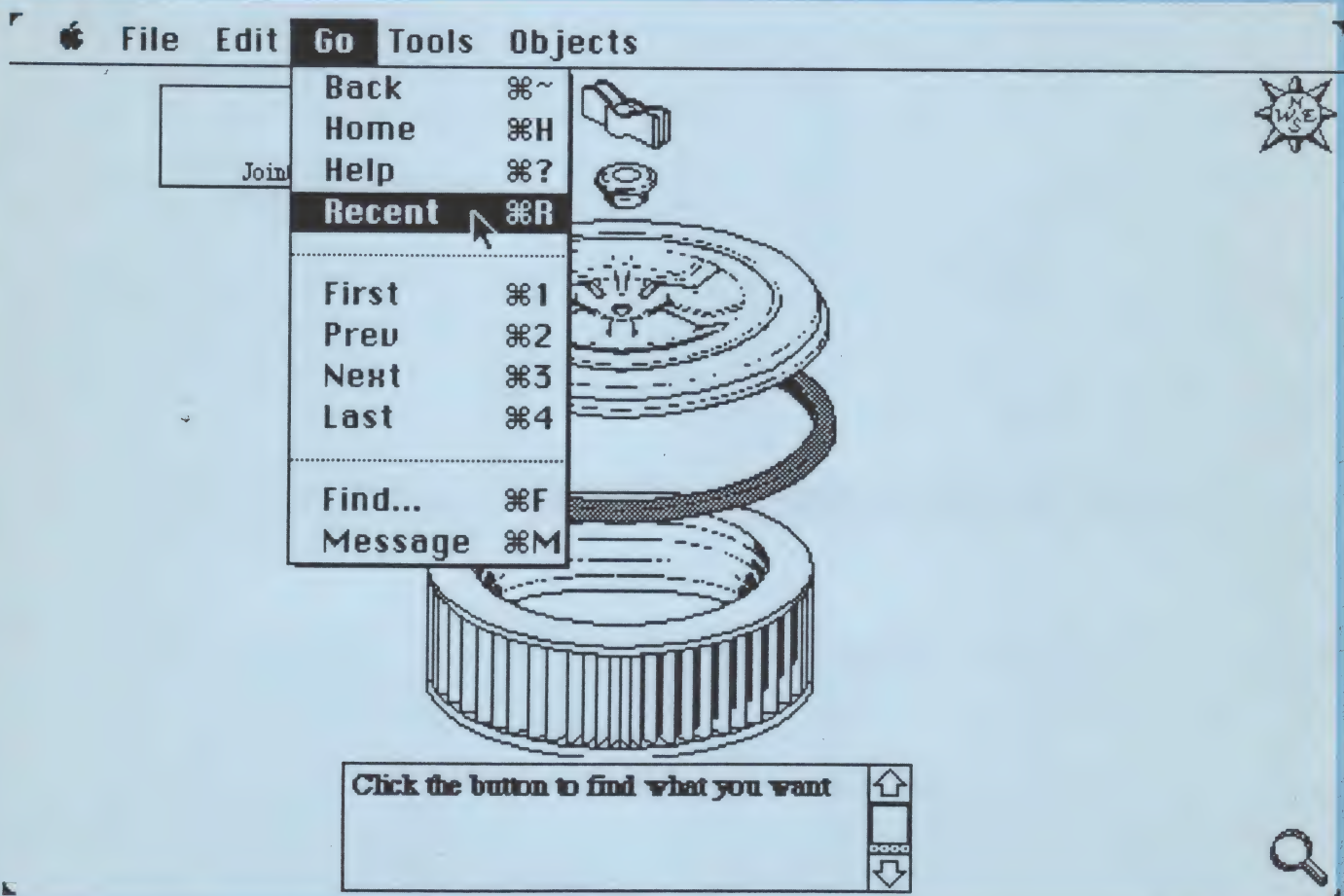
#### The Recent Command

## HyperCard

The Recent command in the Go menu displays miniatures of the last 42 cards you looked at. If you visited one card several times, then only one representation of that card appears. This is an extremely fast method of getting back to the card you want when you're browsing (navigating) through many different stacks. You'll use it now to find your most recent card in Pracstack.

The other commands in the Go menu let you "go" back to the Home card, or navigate back and forth within a stack (which you saw when you browsed through the Addresses stack.) The command Back takes you to the last card you were on, even if it is in a different stack.

**Choose Recent from the Go menu (Command-R)**



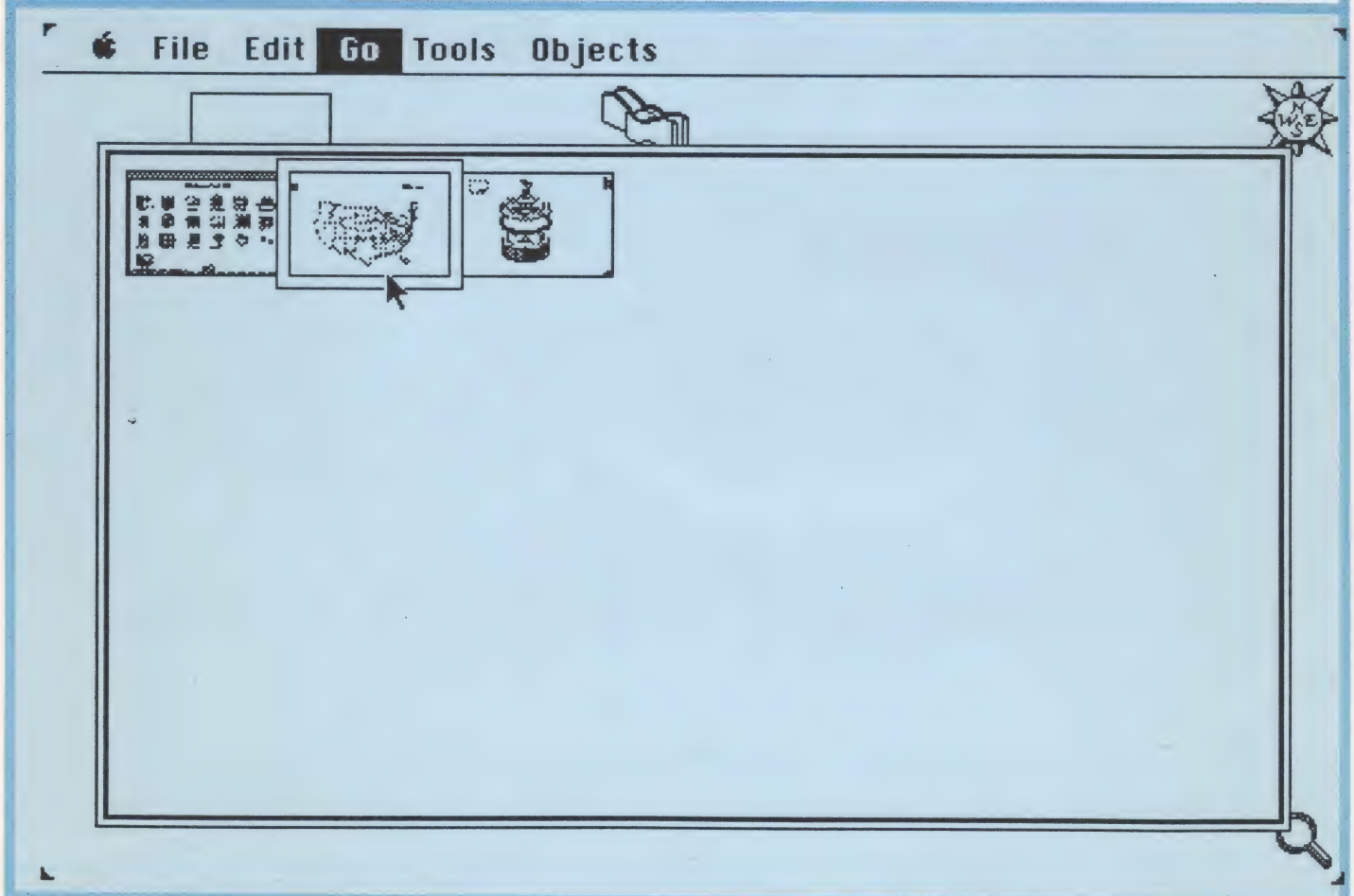


# HyperCard

## 3. Navigating by Country Moving with Recent

All the cards you recently looked at are displayed on the screen. If you've been doing your own browsing, you may have a different set of miniatures on your screen. In any case, you want to go back to the map card in Pracstack to transfer the background you copied to the Clipboard. Clicking on the card you want opens the card and its stack.

**Click the map of the United States**





### 3. Navigating by Country

#### Pasting from the Clipboard

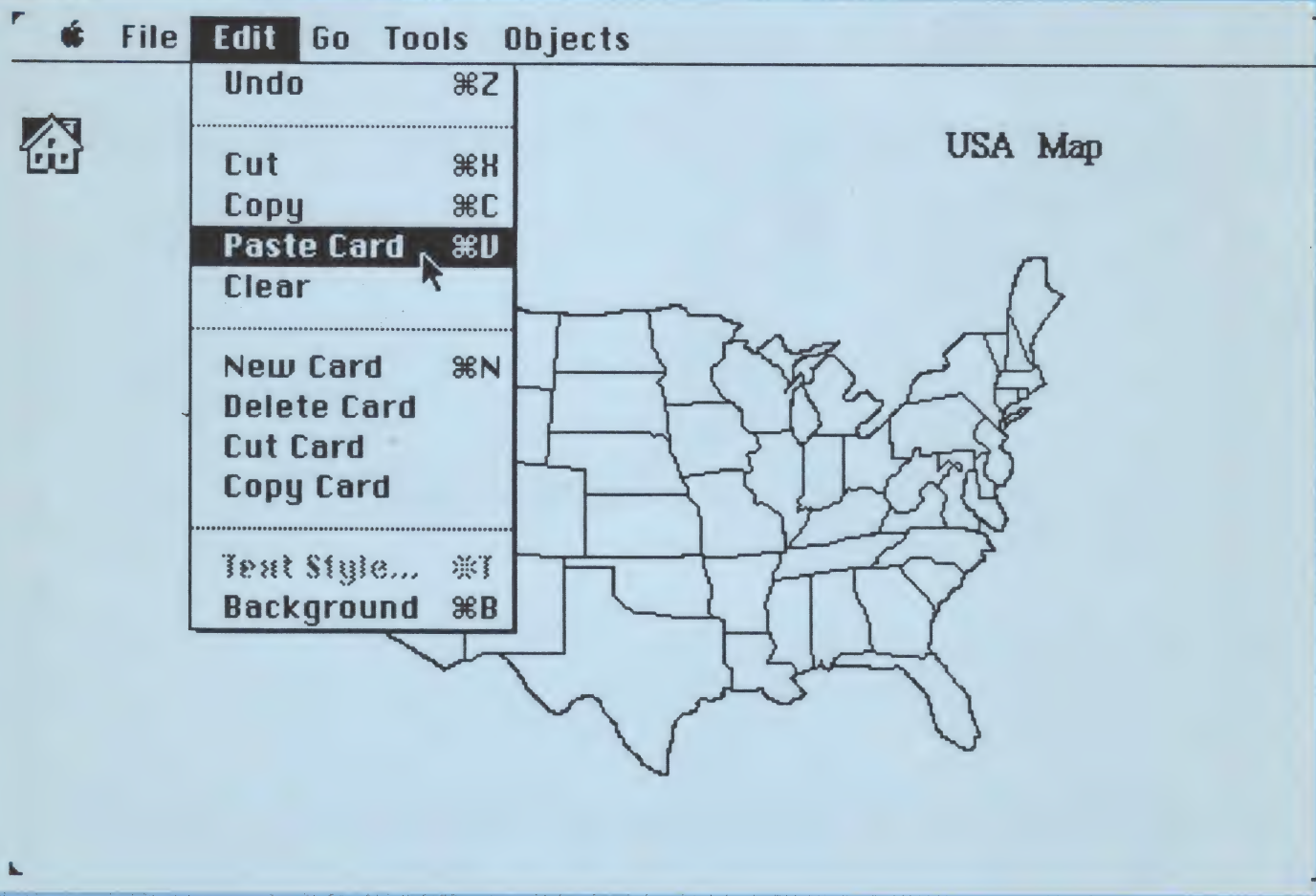
## HyperCard

Your map card is open. You need to paste the background which is still stored in the Clipboard. The Clipboard holds the last object you cut or copy.

You'll create a second card with a new background, retaining all the HyperCard objects used by the pasted card, including its buttons and button scripts.

A pasted card appears *after* the current card in the stack.

**Choose *Paste Card* from the *Edit* menu (Command-V)**





# HyperCard

## 3. Navigating by Country Paint Mode

On this card there is a picture that is no longer needed. It will be replaced by a map of the North American country. You're therefore going to delete the picture.

With HyperCard you have access to a movable MacPaint-type tools palette. You can use these tools to erase the picture.

To be in Paint mode, you select any one of the Paint tools. Only one tool can be selected at a time.

Select the Lasso from the **Tools** menu



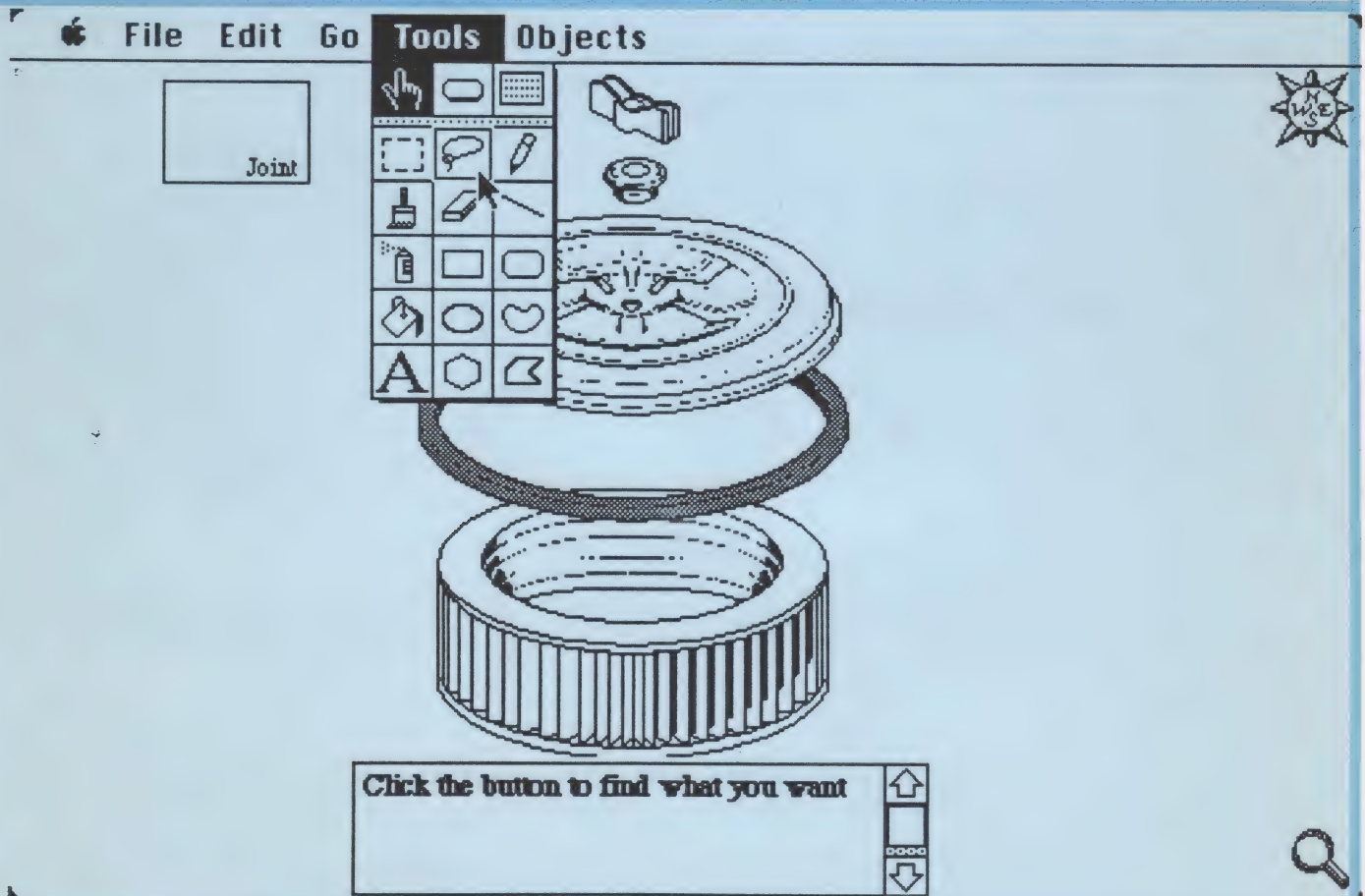
You could of course have chosen the Selection rectangle



, or the Eraser



to erase the picture.





### 3. Navigating by Country

#### Removing a Picture

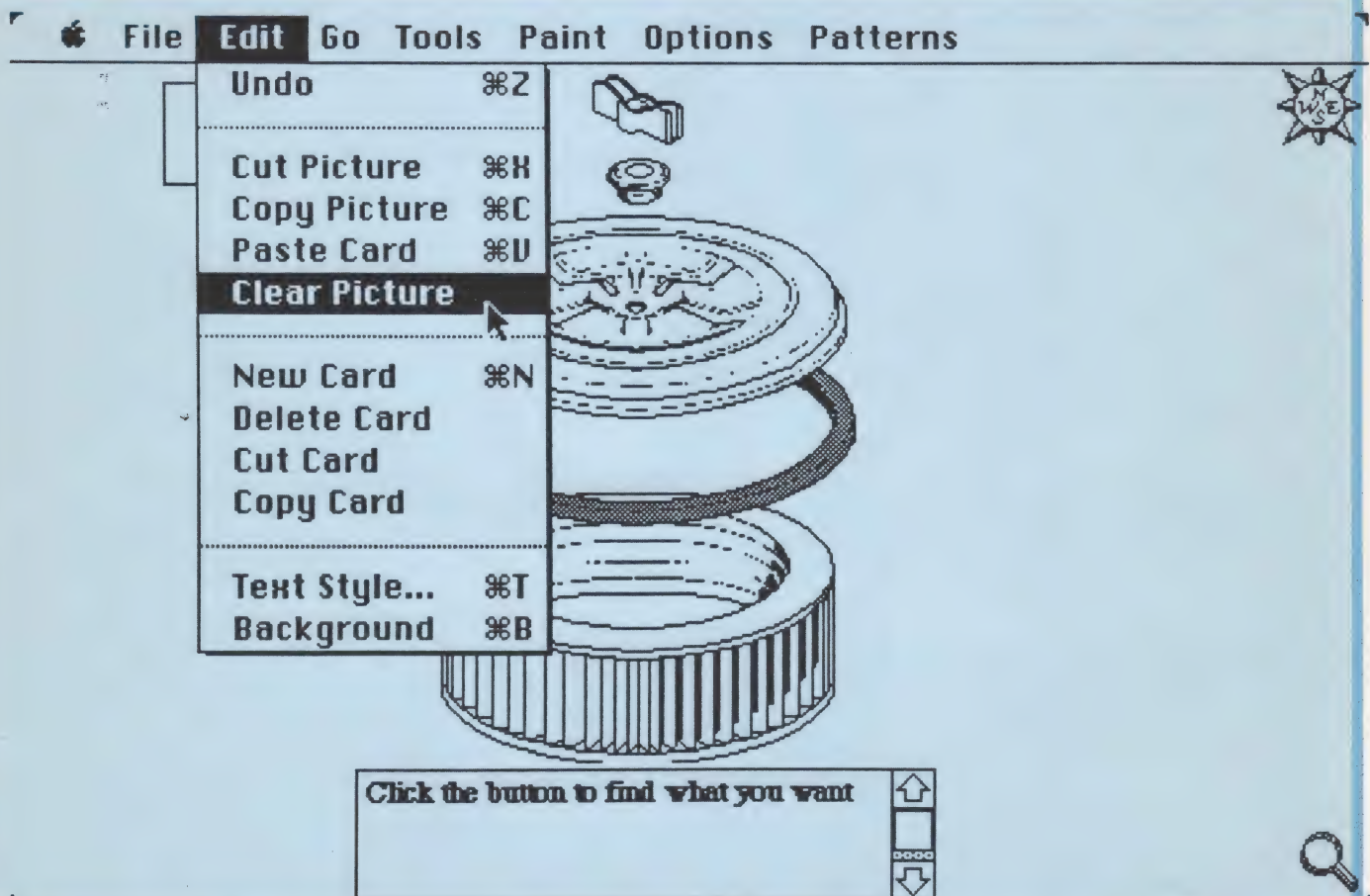
## HyperCard

There are several ways to select a picture. In Paint mode, you can select the picture with the Lasso and delete it. Or you can choose the Select All command from the Paint menu and then delete it.

You've probably noticed how HyperCard adapts the menu commands according to what you're doing (whichever mode you're in). In Paint mode, the commands Cut, Copy, and Clear only concern graphics. (The Paste command concerns whatever is currently held in the Clipboard.)

You'll also notice that when you use the Lasso to select the picture, if you cover part of the text at the bottom of the screen, the text will not be deleted with the picture. Text is created in a field which is a type of HyperCard object, and a field is not affected in Paint mode.

- Select the picture with the Lasso
- Choose **Clear Picture** from the **Edit** menu





You can now take a look at the HyperCard objects on the card. The function of the Objects menu is to let you create, examine, and change the information and actions of buttons, fields, cards, backgrounds, and stacks; in other words, HyperCard objects.

To examine the script of the Compass button at the top right of the screen, you can use the Button Info command in the Objects menu, then click Script, or you can use the shortcut, Shift-double-click on the button.

**Get into Button mode and select the Compass button**

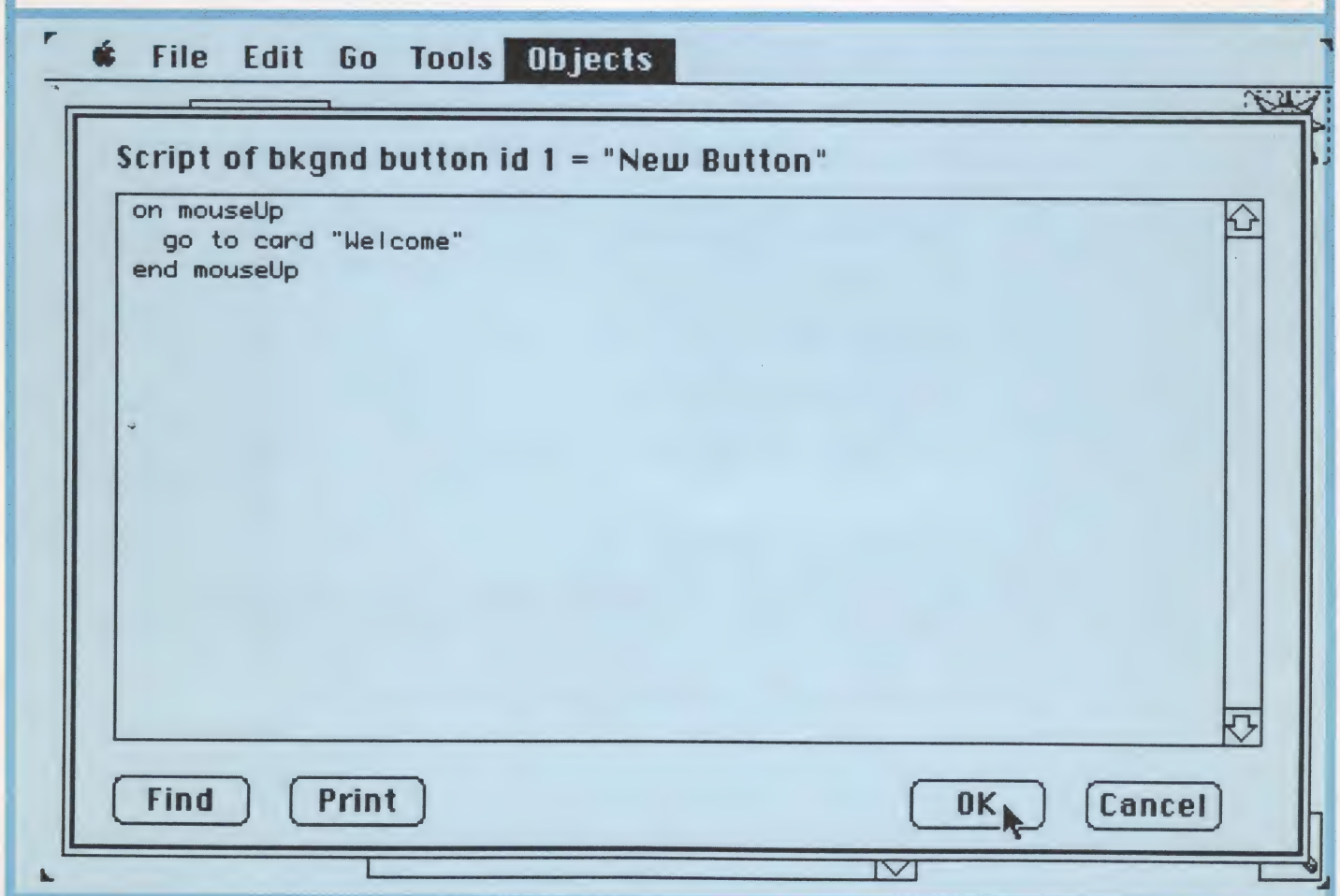
**Choose Button Info... from the Objects menu**

On examining the button's properties, you'll discover that it's a background button with an ID number assigned to it by HyperCard.

**Click Script...**

The script shows that the button's action takes you to a card named Welcome. This button will let the user go to the Welcome card from all the other country cards in the stack. However, the first card in your stack is not called Welcome. For this button to function correctly in your stack, you can do one of two things: change the name of the destination in the script, or change the name of the destination card. Choose the second solution.

**Click OK**





### 3. Navigating by Country

#### Naming a Card

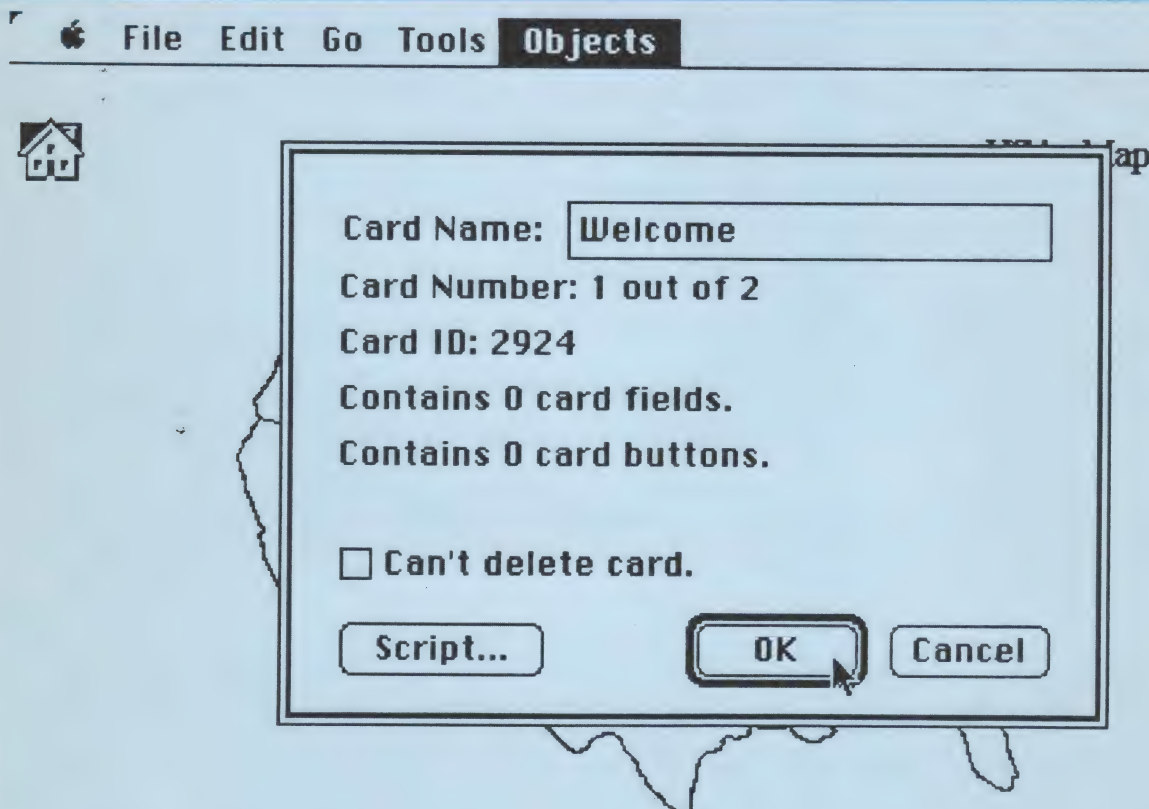
## HyperCard

The Card Info dialog box contains information about the current card. You'll use it to name the first card in your stack. HyperCard identifies a card by its place in the stack, and its ID, which is a card's unique identification number (assigned to it by HyperCard). The information also includes the number of fields and buttons a card contains.

**Press the Left Arrow key to go to the first card in the stack**  
**Choose Card Info... from the Objects menu**

This card contains no fields and buttons. Indeed, the fields and buttons are objects on the background.

**Type the name Welcome after Card Name**  
**Click OK to confirm**





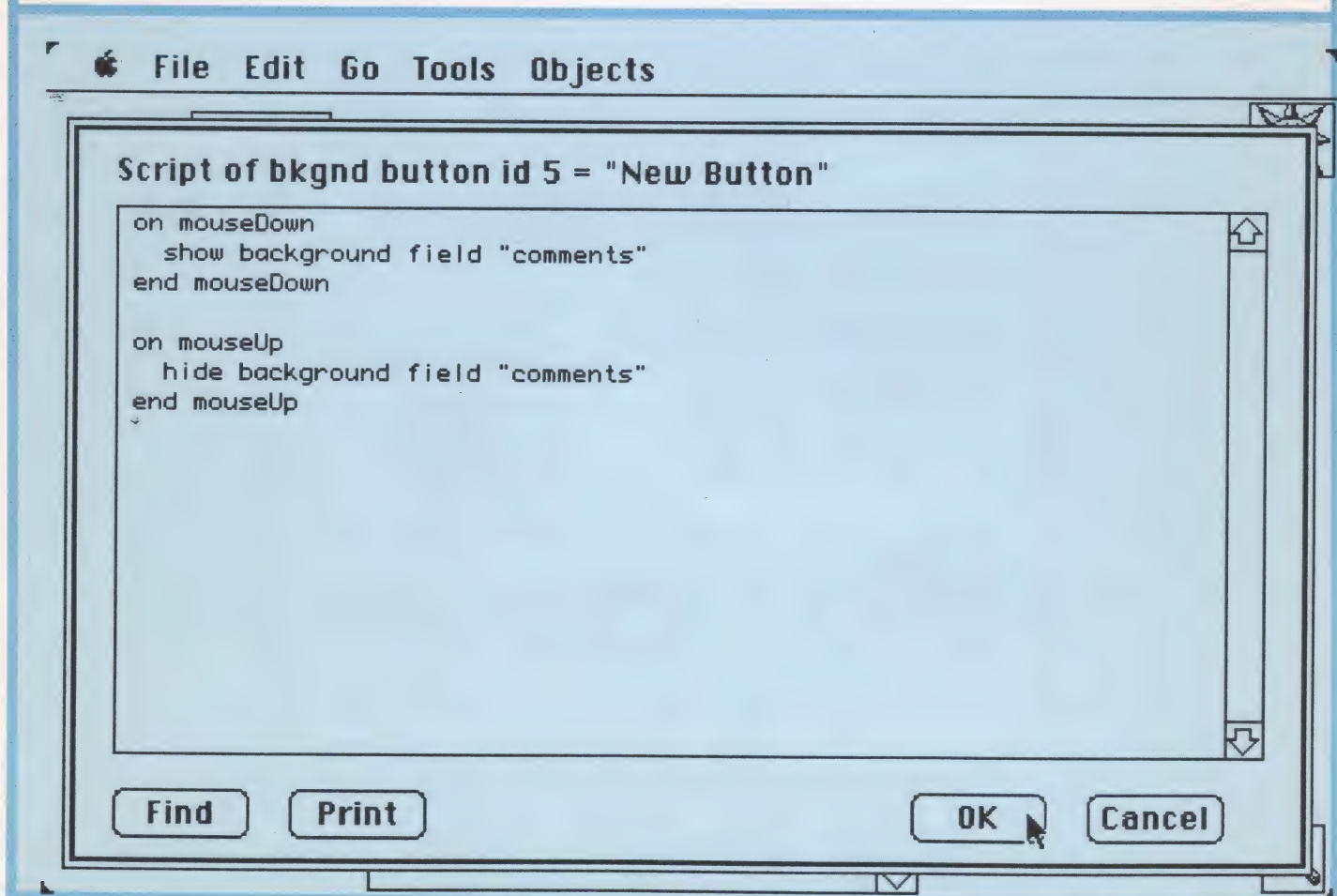
Your stack has two cards. Return to the Country card and look at the other buttons and fields to see which ones are worth keeping.

What does the magnifying glass button do? Its script is the following: when the mouse button is held down (on mouseDown - end mouseDown), display the background field "comments" (background field), and hide it when the mouse button is released (except if its released anywhere else but on the magnifying glass).

**Go to the last card of the stack and select Button from the Tools menu**  
**Shift+double-click on the Magnifying Glass to see script, then click OK**  
**Select Browse from the Tools menu and click the Magnifying Glass**

This displays the field Comments, which is a scrolling field useful for text with varying lengths. This magnifying glass button will suit your cards since you'll be able to write comments in the field without cluttering up the screen too much (the field will only be displayed if the user wishes).

**Click the Magnifying Glass again**  
**Release the mouse button anywhere outside the Magnifying Glass**





### 3. Navigating by Country

#### Field Characteristics

## HyperCard

You've examined the various buttons of this card, now examine its fields. Fields are text areas with characteristics that you specify, such as: the general appearance of the field (transparent, opaque, scrolling), its border style (rectangle, shadow), its text style (font), and the script associated with the field. You also specify if the field is a background field to appear on all cards, or a card field to appear only on the card where you create it. The ID number is determined by HyperCard. The field number shows you what layer the field is on in relation to other fields, that is, the most recently created field has the highest number and is on the frontmost layer. (Here it's the first field created.)

Select the Field tool from the **Tools** menu



Double-click on the scrolling field

Click the **Font...** button to see the available fonts and click **OK**

Choose **Browse** mode and click the **Magnifying Glass** to hide the **Comments** field

**Note:** The font you choose in the text style dialog box affects all the text in the field and not just a selected part of the text.

File Edit Go Tools Objects

Joi



Field Name: **comments**

Bkgnd field number: 1

Bkgnd field ID: 4

☐ Lock Text

☒ Show Lines

☐ Wide Margins

Font...

Script...

Style:

☐ transparent

☐ opaque

☐ rectangle

☐ shadow

☒ scrolling

OK Cancel

Click the button to find what you want

↑

○○○○

↓





# HyperCard

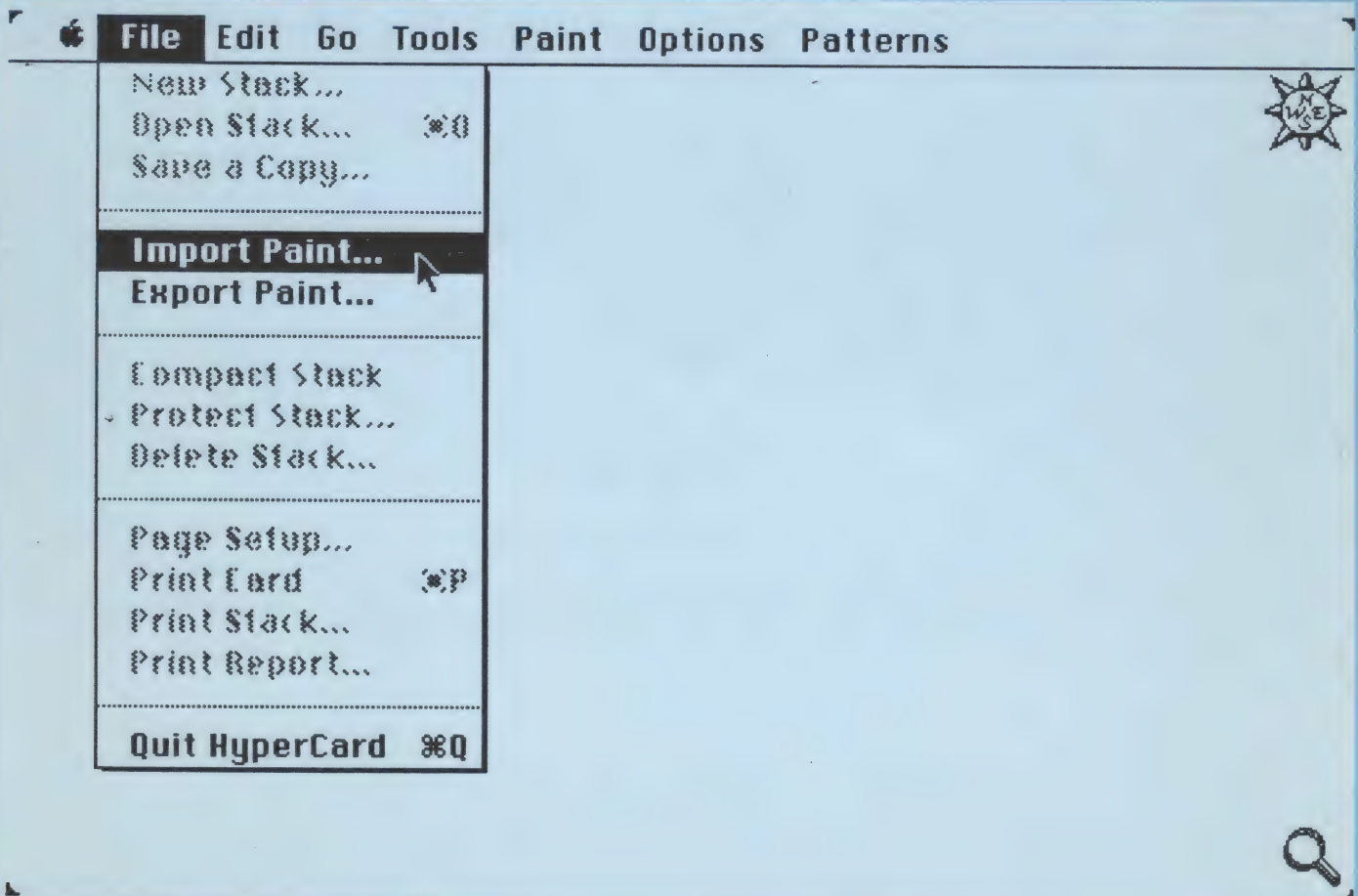
## 3. Navigating by Country Importing a Picture

The buttons and fields of the card are finished. Now you want to bring in the map of the country. The map, already created for you as a MacPaint picture, is on the practice disk.

There are several ways of importing a picture into HyperCard. You can bring in drawings from the Scrapbook and Clipboard, or import a Paint-type picture directly. The second method is the one you'll use.

The Import Paint command in the File menu lets you select from the picture documents on disk and paste the one you want onto the card. You have this command available in the File menu, you have to be in Paint mode.

**Select the Selection Rectangle (or any Paint tool) from the Tools menu  
Choose Import Paint... from the File menu**





### 3. Navigating by Country

#### Importing a Paint Document from Disk

## HyperCard

The Directory dialog box appears displaying the available Paint documents on disk. Your first country card will be Mexico, so select the document called Mexico.

Open the Paint directory (double-click on it)  
Select the document Mexico  
Click the **Open** button  
(Or Double-click the document Mexico)

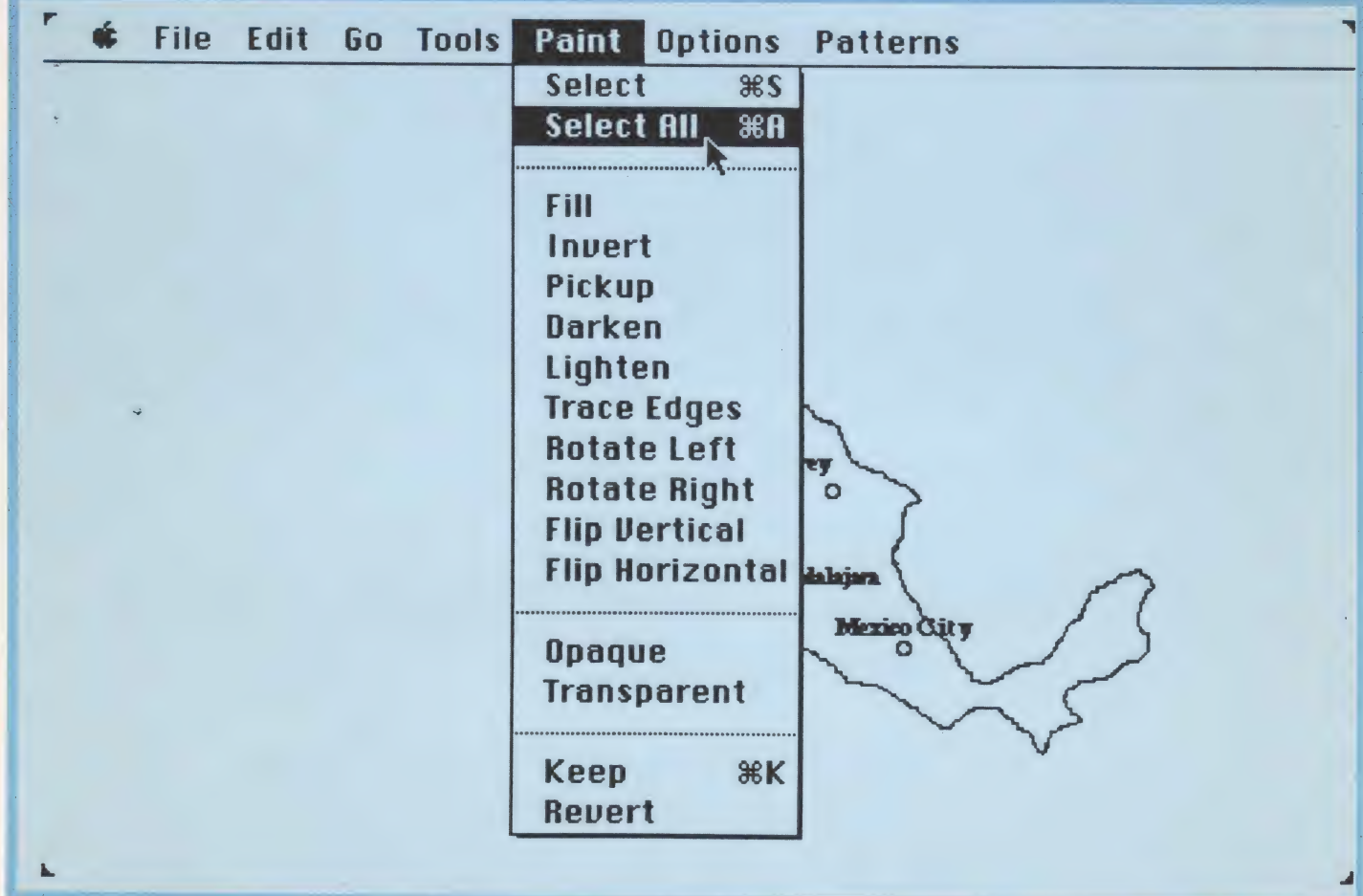
File Edit Go Tools Paint Options Patterns





The Paint picture, a map of Mexico, is now pasted onto your card. You'll notice that the buttons and fields have disappeared. The MacPaint picture brought in from the disk is opaque and covers the existing HyperCard objects. Only objects on the background are covered in this way, any object on the card itself would remain visible. To make the picture transparent, you need to select it:

Choose **Select All** from the **Paint** menu





### 3. Navigating by Country

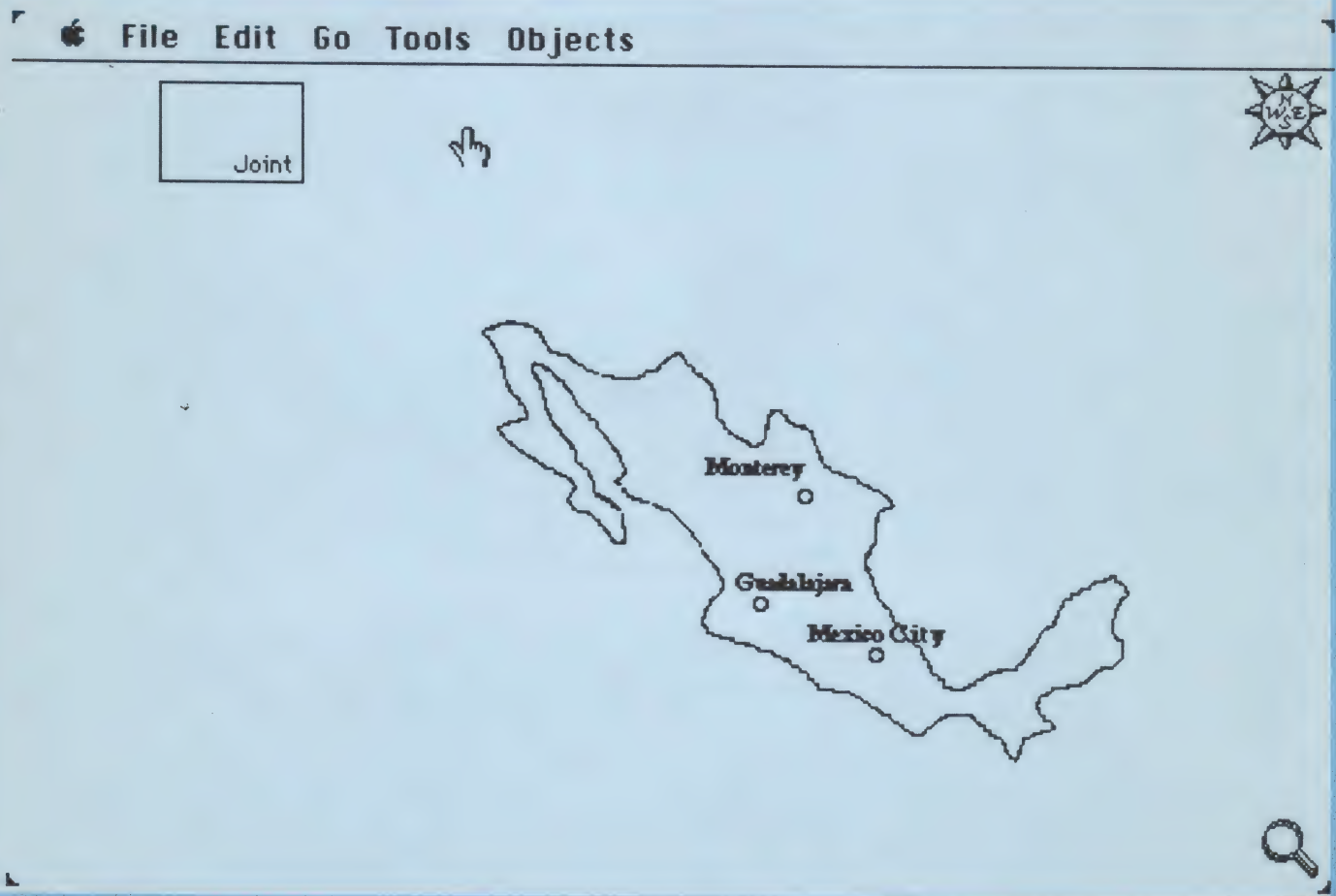
#### Making a Picture Transparent

## HyperCard

With the **Transparent** command in the **Paint** menu, you'll change the map of Mexico from opaque to transparent and redisplay the HyperCard objects on the background.

While you're still in **Paint** mode, you can move the map to center it on the screen. This card is almost complete. You just need to give it a name and enter the text in the various fields. You'll see how to do this in next few pages.

**Choose **Transparent** from the **Paint** menu**  
**Drag a rectangle around the entire picture**  
**Click inside the picture and drag to move it**  
**Select the **Browse** tool from the **Tools** menu**



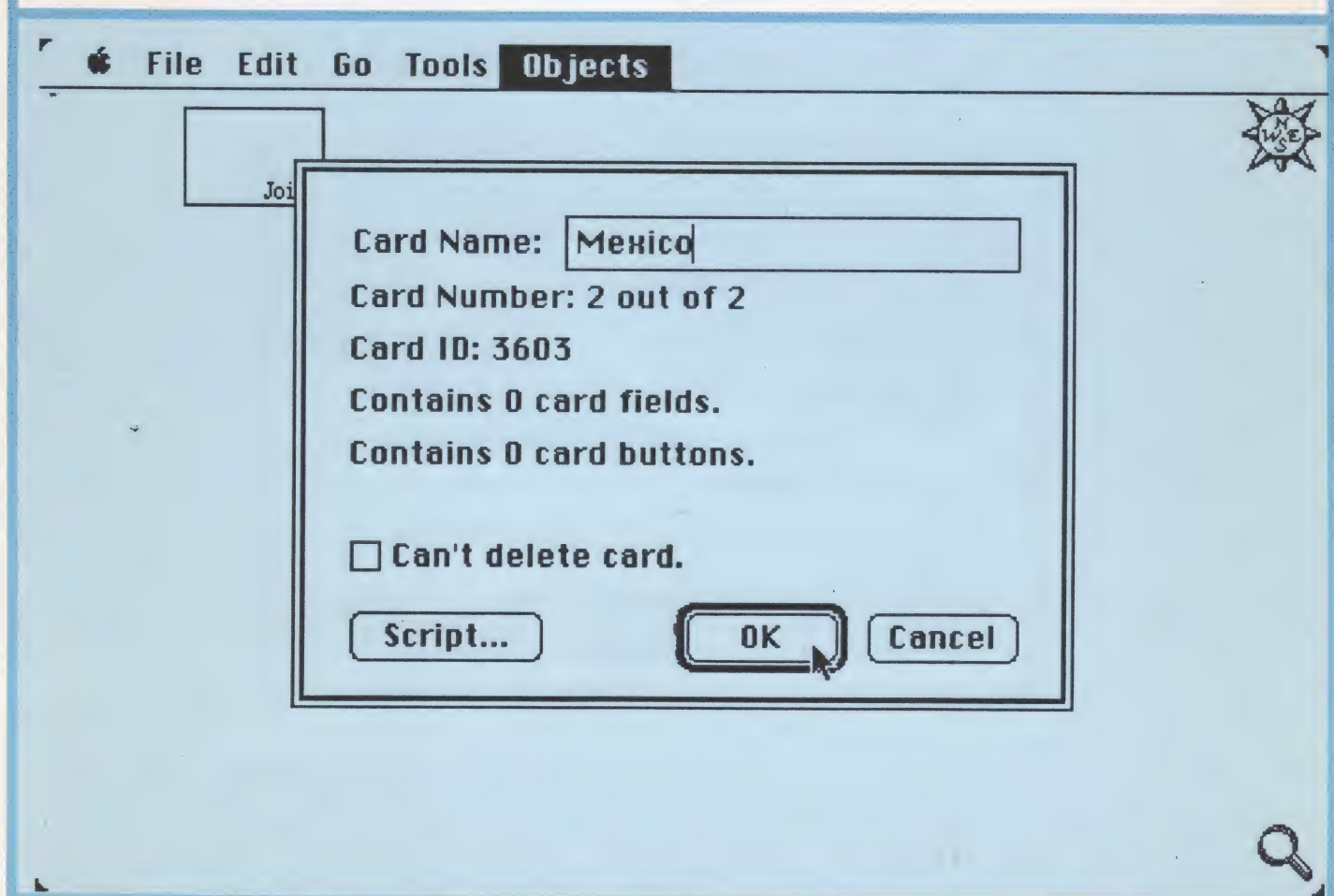


Give this card the name of the country it represents (Mexico.)

In the Card Info dialog box (Objects menu), you can look at, create, or change the card's name or the card's script. A card is identified by its relative number in the stack (here, the second card out of two), its ID assigned by HyperCard, and the name you specify - make sure the names you assign are unique.

**Choose Card Info... from the Objects menu**

**Type the Card Name: Mexico**






### 3. Navigating by Country

#### Naming a Field

## HyperCard

Click **OK** to confirm (or press Enter)

Now take a look at the field on the top left of the card.

Select the **Field** tool from the **Tools** menu   
Double-click the field on the top left of the screen

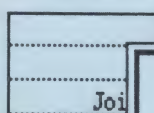
It's a rectangular background field with no lines showing. You need to give it a name as you just did for the card. Name the field "Description" to use it for the names of the countries in your stack.

Type the Field Name: Description  
Click **OK**

To edit the text in the Description field, go into Browse mode.

Select the **Browse** tool from the **Tools** menu 

File Edit Go Tools Objects



Field Name:

Bkgnd field number: 2

Bkgnd field ID: 7

- ☐ Lock Text
- ☐ Show Lines
- ☐ Wide Margins

Style:

- ☐ transparent
- ☐ opaque
- ☒ rectangle
- ☐ shadow
- ☐ scrolling

Font...

Script...

OK

Cancel





# HyperCard

## 3. Navigating by Country Entering Text in a Field

To enter text in a field, you click on the field and the Browse tool (hand) turns into a typing insertion point. When you have several fields on a card, pressing the Tab key will jump the insertion point from the first field to the second field in the order that the fields were created. When you are in the last field, Tab will take you back to the first field.

On the last line of the "Description" field, you'll replace the name "joint" with the name of the country "Mexico."

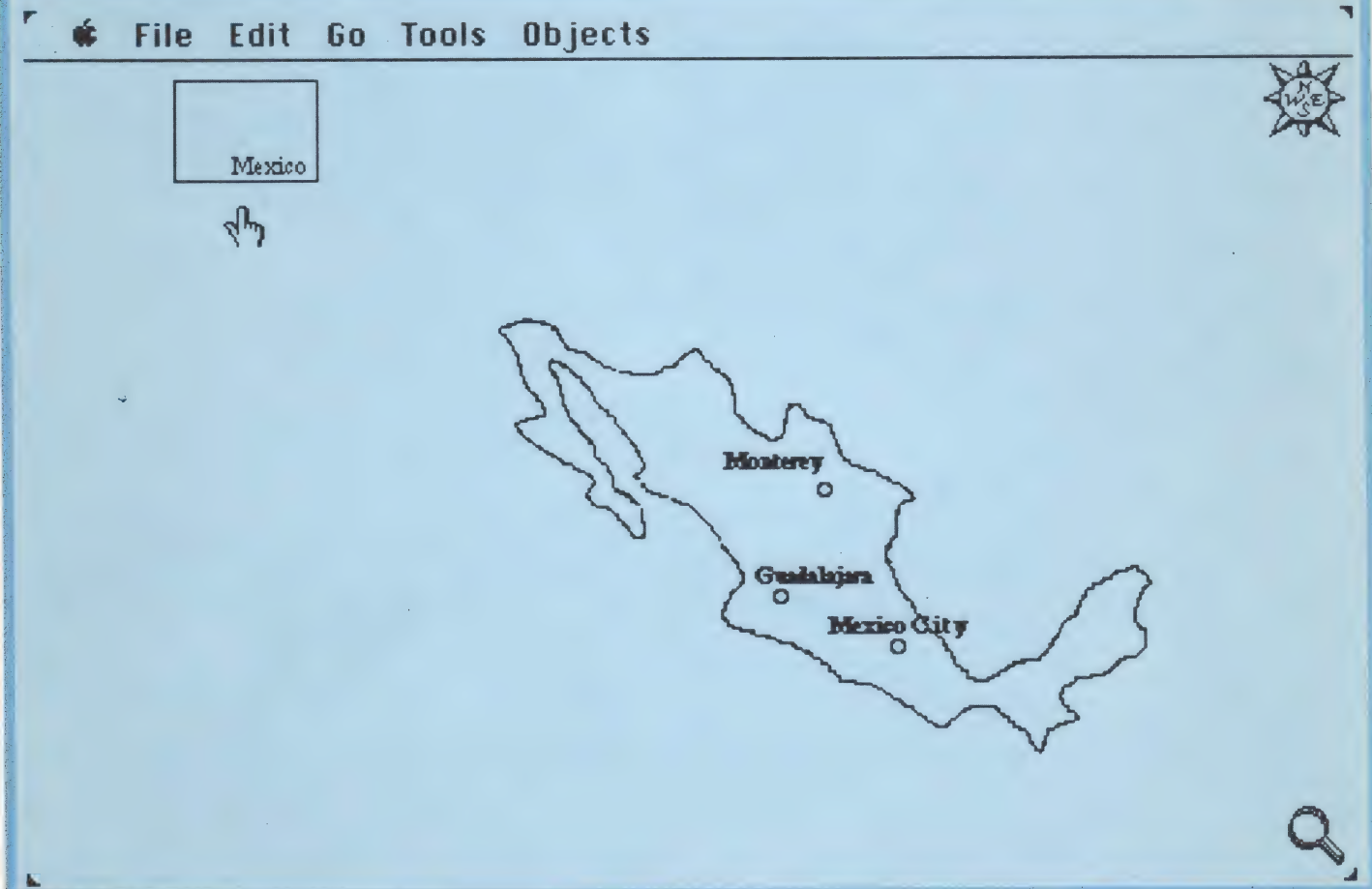
**Click on the last line of the Description field**

**Select the word "joint"**

**Type Mexico**

**(Or press Tab to position the insertion point in the field)**

You've typed the name of the country twice, once for the name of the card and once for the field text. You'll see later how to do this automatically and avoid typing the same text twice.





# HyperCard



Adding a Card  
Moving Around in the Stack  
Information on the Current Background  
Writing Script for a Field  
Testing the Script  
Naming the Other Cards  
Pasting a Picture from the Scrapbook  
Naming the U.S. card  
Icon Buttons for the Welcome Card  
Rearranging the Icons  
Creating Transparent Buttons  
The Script for the Icon Buttons  
Testing the Icon Buttons





## 4. Creating the Country Cards

### Adding a card

## HyperCard

In this chapter, you'll create the cards for the other countries, Canada, Guatemala, and Honduras used in this exercise. These cards will be based on the model you created for Mexico. To create a new card you choose the New Card command from the Edit menu. The new card is inserted immediately after the card you're looking at and will copy the background objects of the Mexico card.

You'll then add the maps of each country (Guatemala, Canada, and Honduras) to the corresponding card.

Choose **New card** from the **Edit** menu

Select the **Lasso** tool from the **Tools** menu to go to **Paint** mode

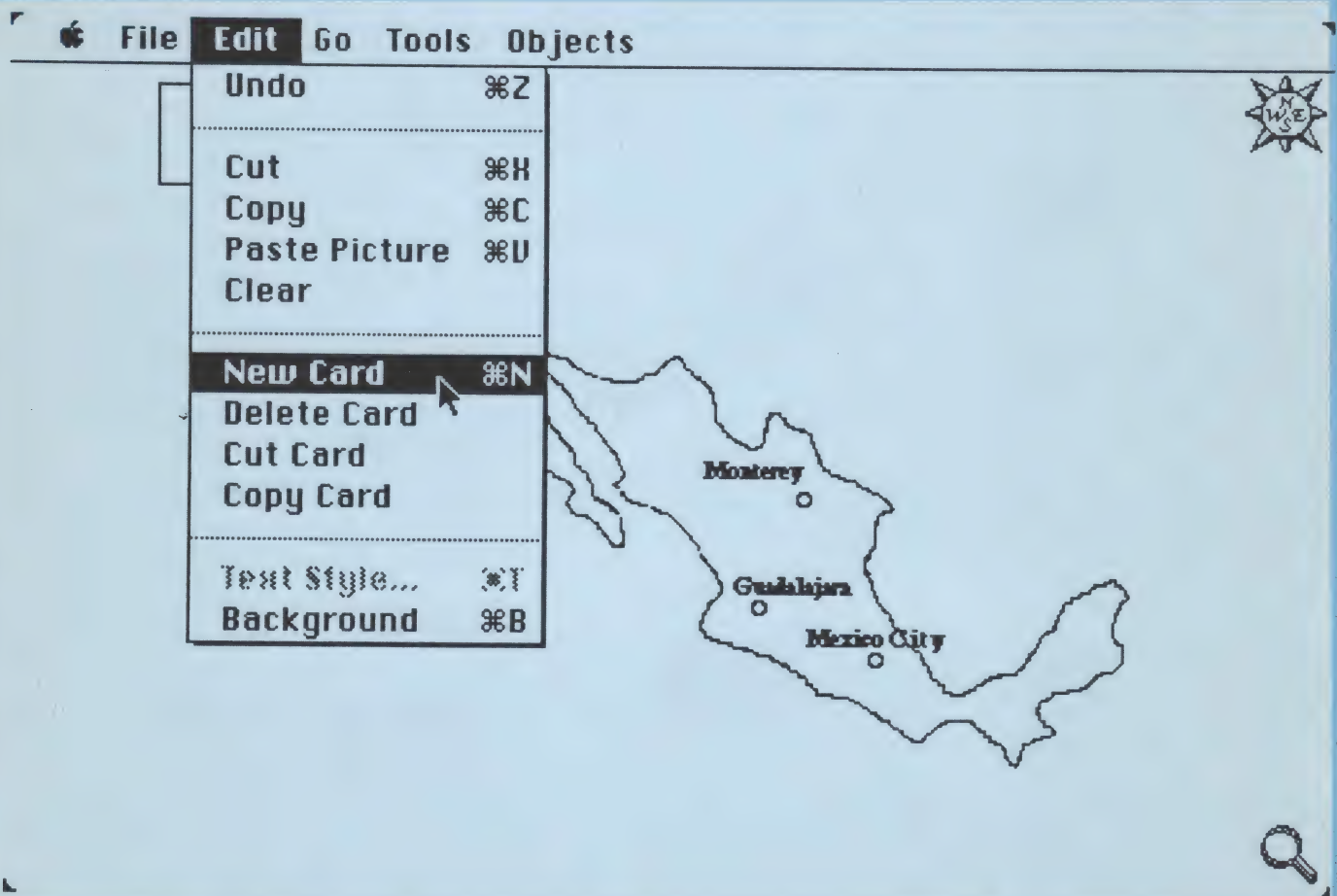
Choose **Import Paint** from the **File** menu

Select the document (Guatemala)

Choose **Select All** from the **Paint** menu

Choose **Transparent** (from the same menu)

Repeat the whole procedure for the other countries (Canada, then Honduras)





To move from one card to another through a stack, you use the Right and Left Arrow keys on the keyboard.

You can also use the keyboard-equivalent commands noted beside the names of the commands in the Go menu to look through cards or to get to any stack available on the Home Card. First make sure you are in Browse mode. Use the Command key and the numbers on the numeric keypad.

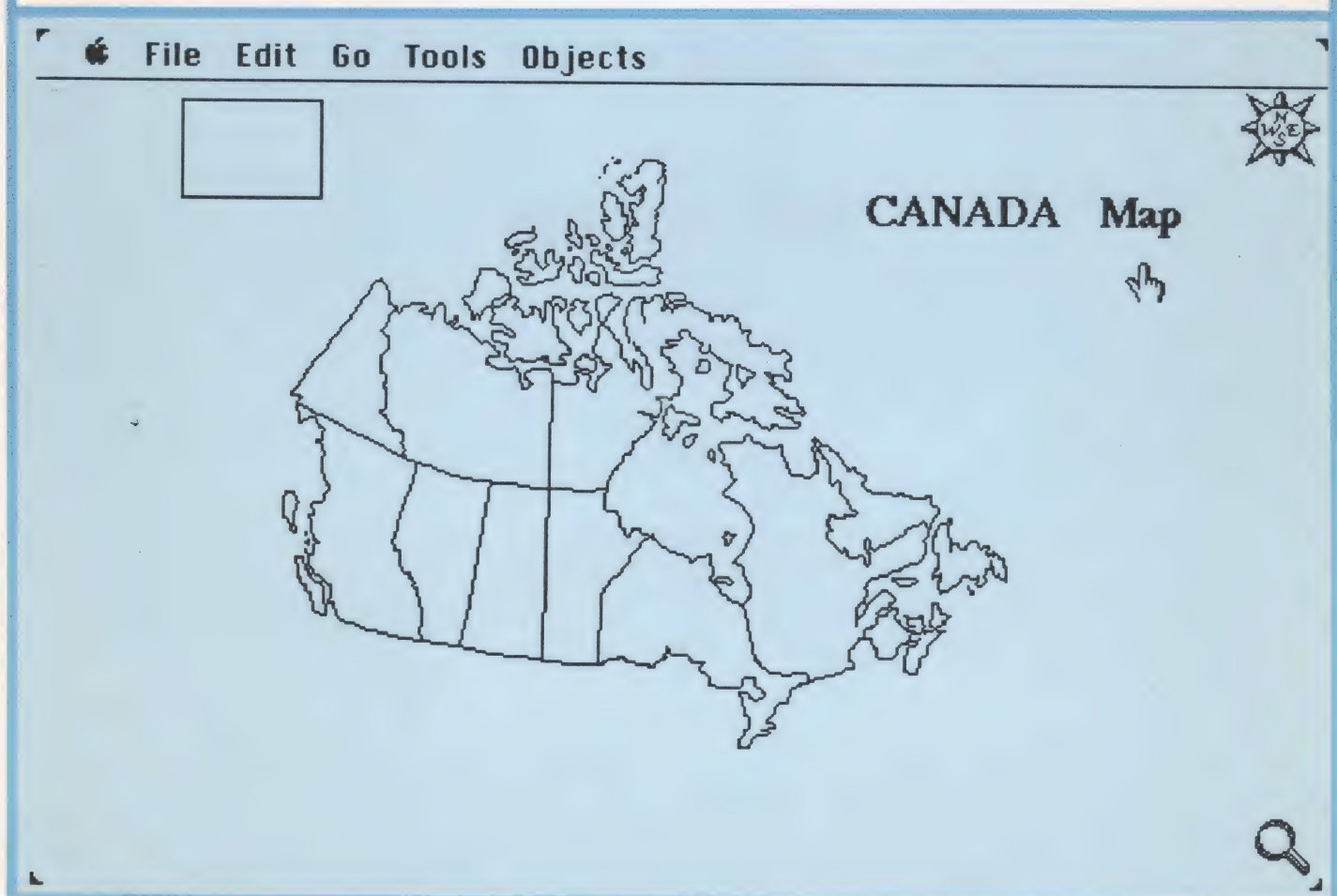
Choose the **GO** menu commands or the keyboard equivalents:

**Command-1** = First card in current stack

**Command-2** = Previous card in current stack

**Command-3** = Next card in current stack

**Command-4** = Last card in current stack





## 4. Creating the Country Cards

### Information on the Current Background

## HyperCard

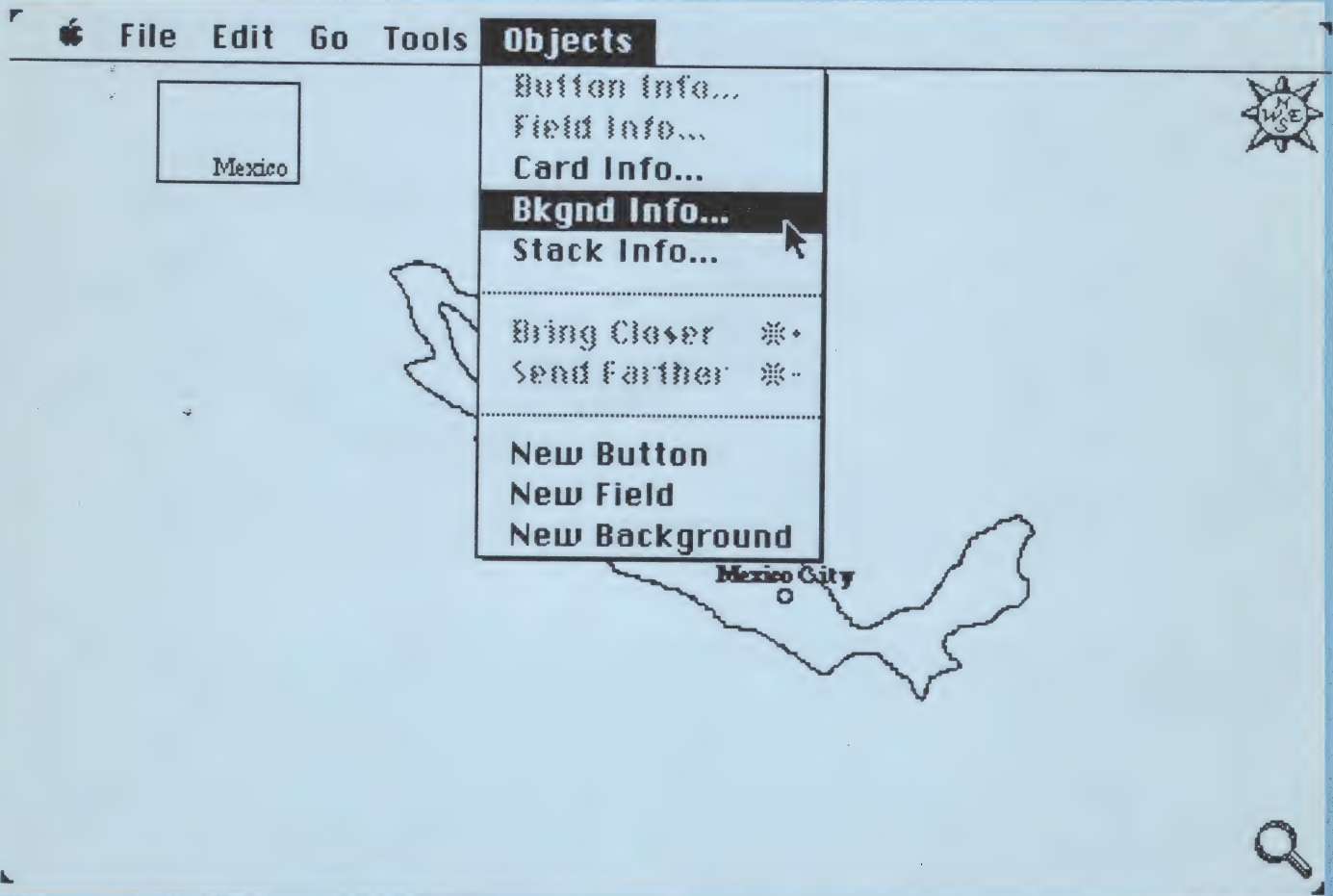
When creating the Mexico card you typed the name twice, once to name the card and again to display the name of the country in the Description field.

Another way of entering text in a field is to write it in a HyperTalk script.

Should you write the script on the field, card, or stack background level? All the cards will have the script in common, so write it on the background level.

- Select the **Browse** tool from the **Tools** menu
- Choose **Bkgnd Info...** from the **Objects** menu

The dialog box appears giving you information on the ID, fields, and buttons of this background.





The script box lets you create and edit the background script.

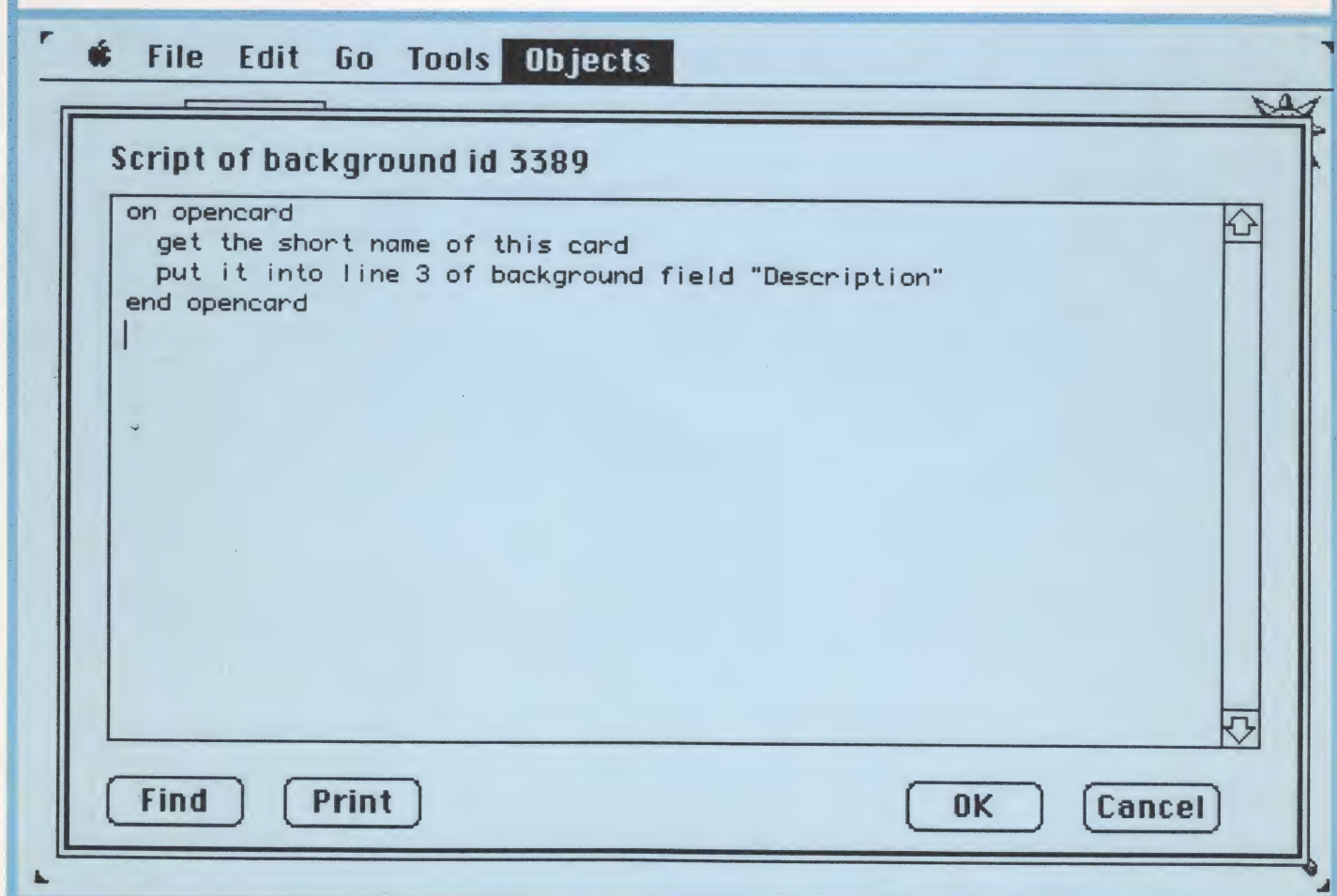
#### Click Script...

Unlike the button script box which offers default script (on mouseDown, on mouseUp, etc.) the background script box is empty. Here you'll use the HyperTalk action commands "get" and "put" to instruct HyperCard how to fill the Description field on each card in the stack.

The first condition (on opencard) will be met when the user opens the card. HyperCard will then "get" the short name of the card (the full name may be for example, :card "Mexico"), and put "it" (contents of the local variable) into line 3 of the background field "Description." The instruction "end opencard" terminates the script.

**Type the script as shown below**  
**Click OK when you've finished**

To make the script clear and easy to read, HyperTalk indents instructions that appear between the open and end instructions. Also, when you have an "on opencard" instruction, you must have an "end opencard" instruction to close the script.





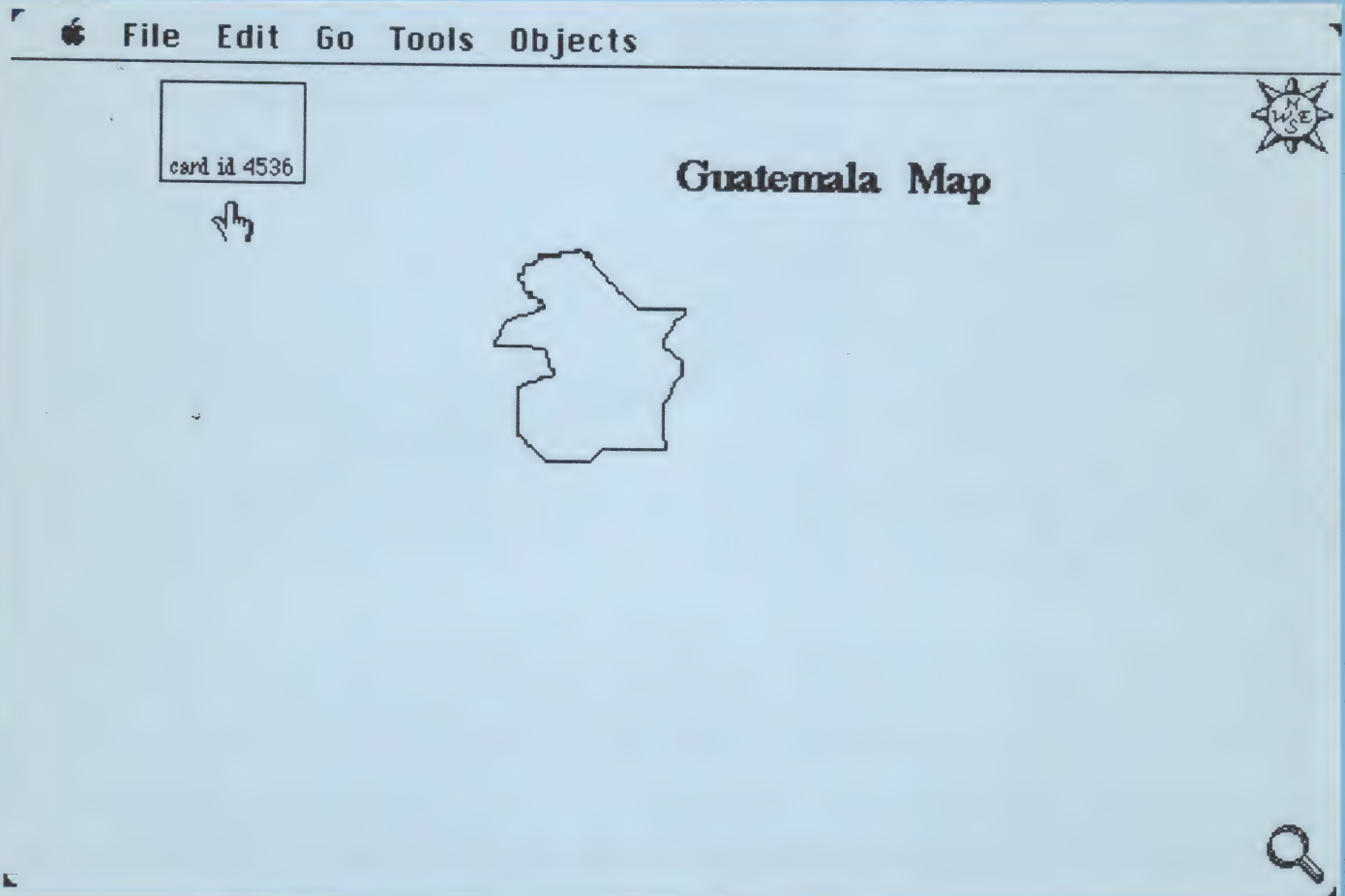
## 4. Creating the Country Cards

### Testing the Script

## HyperCard

To test the script, you need to open the card. Use the Arrow keys to see what is written in the Description field of each card. As the three new cards have not yet been named, HyperCard displays their unique ID numbers.

Use the Arrow keys to look at the Description field of each card





For the background field script to take affect and display the names of the countries on each card, you need to name the cards as you did for Mexico.

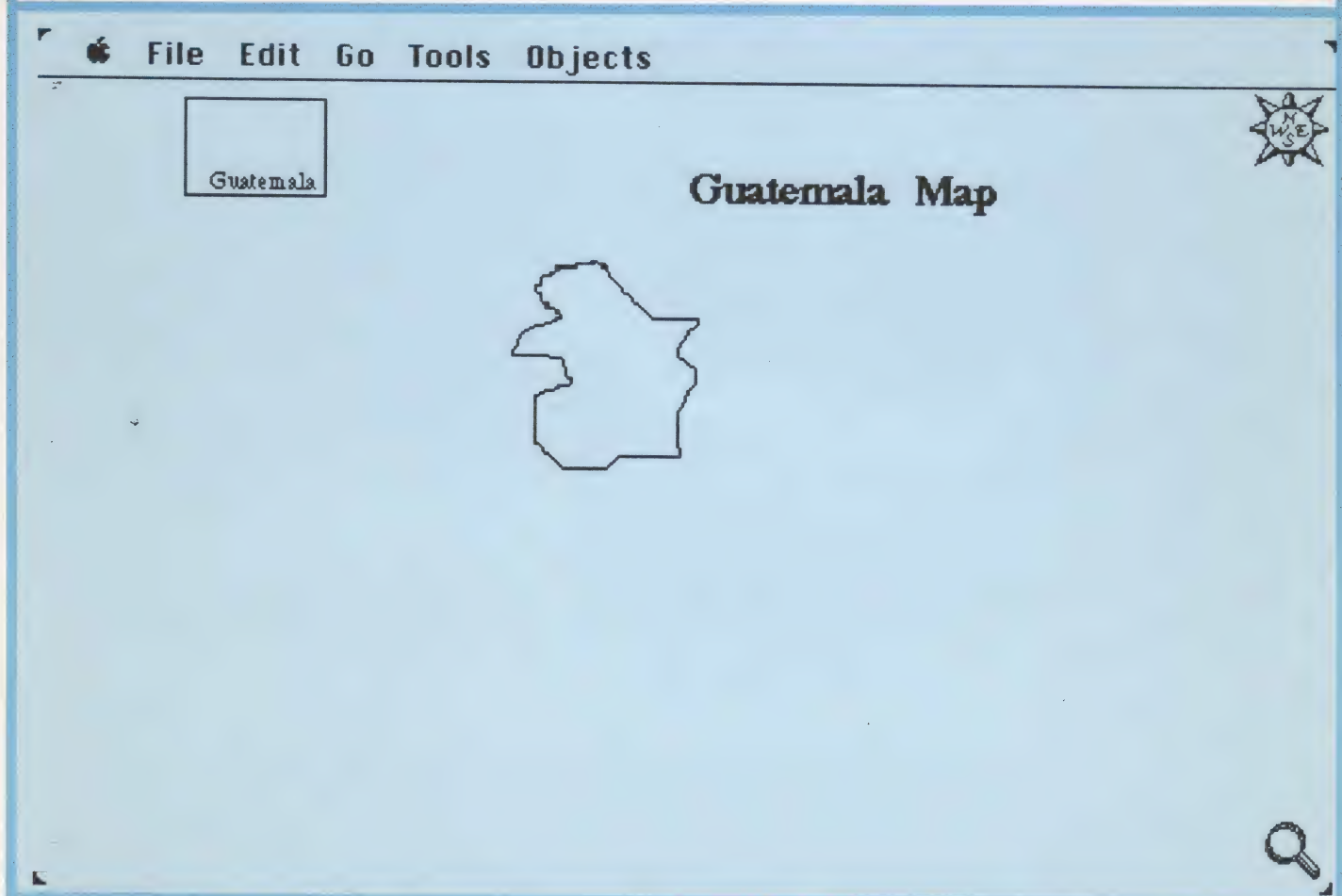
**Go to the Guatemala card**

**Choose Card Info... from the Objects menu**

**Type the name Guatemala and click OK**

**Repeat the procedure for cards Canada and Honduras**

**Use the Arrow keys to browse through the cards**





## 4. Creating the Country Cards

### Pasting a Picture from the Scrapbook

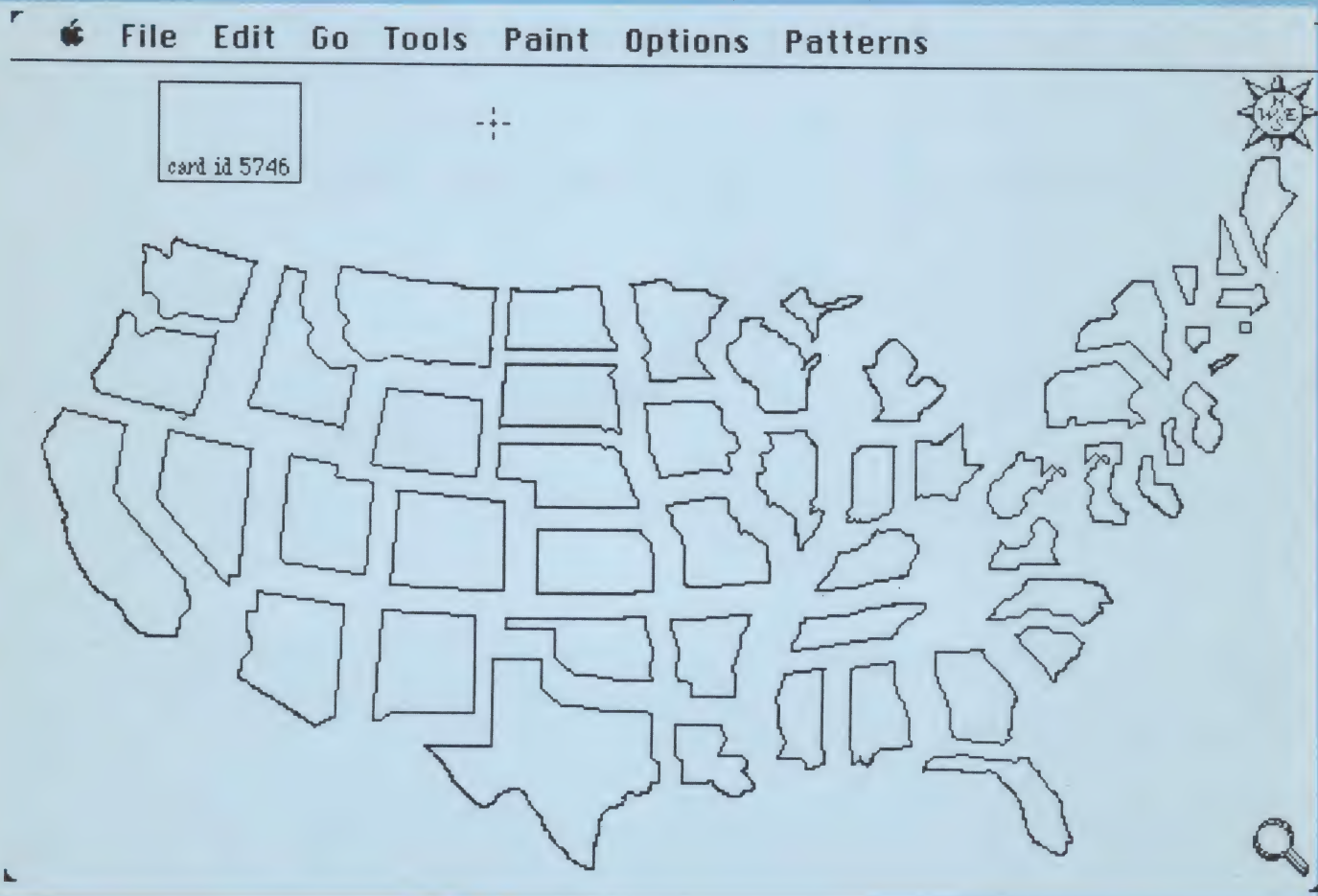
## HyperCard

You have created the map cards of a few of the United States neighbors. You'll now create a card with a map of the United States in exploded view. This map has already been created and is stored in the Scrapbook.

Remember there are various ways of putting pictures onto cards; you can draw your own using the paint palette tools, choose the command Import Paint, or Copy/Paste a picture stored in the Scrapbook.

- Go to the last card in the stack (Honduras)
- Choose **New Card** from the **Edit** menu (Command-N)
- Open the Scrapbook in the **Apple** menu and find the map
- Choose **Copy** from the **Edit** menu and click the Scrapbook close box
- Choose **Paste Picture** from the **Edit** menu and position the map

You'll notice the new card's ID appearing in the Description field since the card hasn't been named yet.





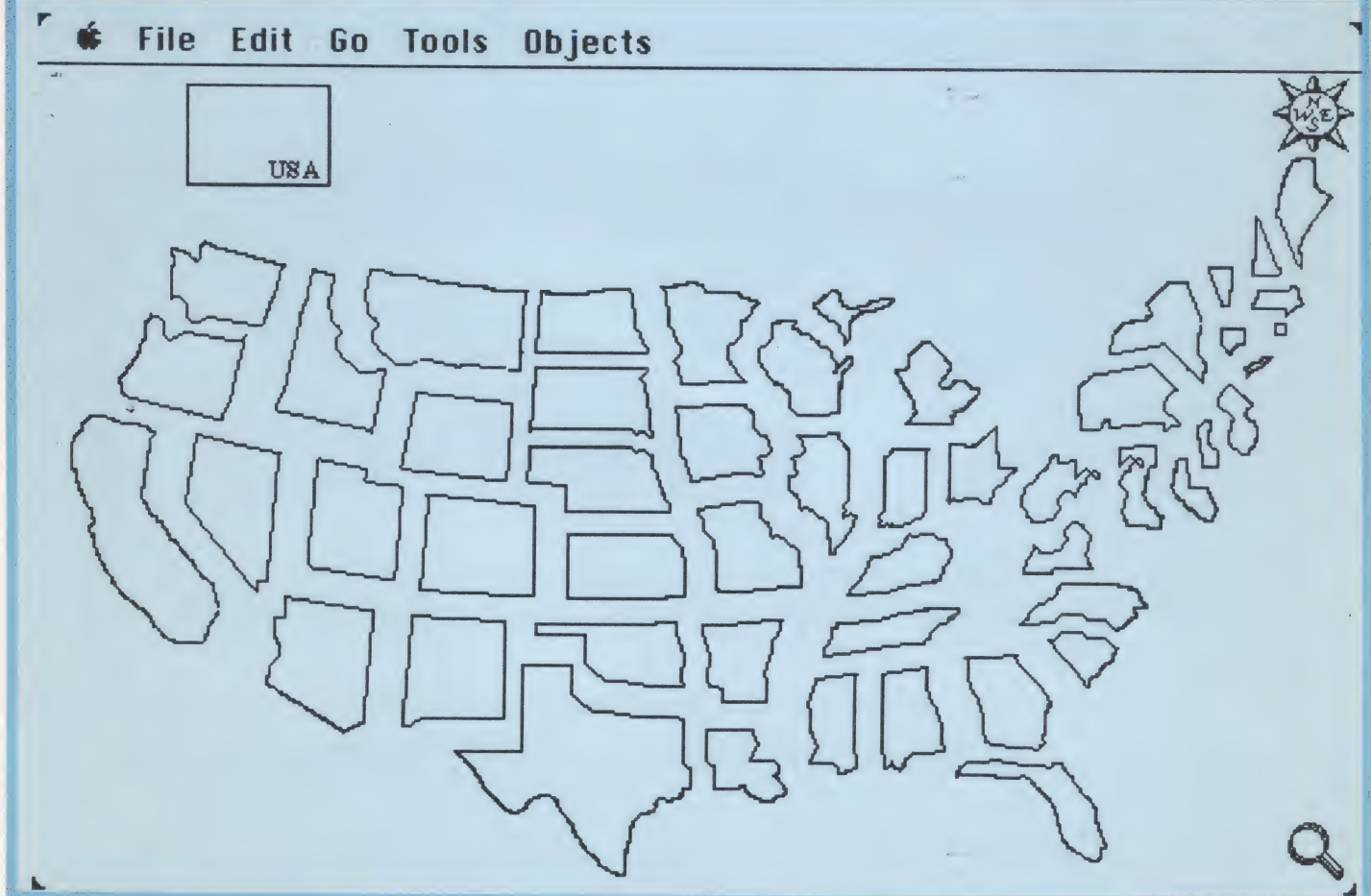
Name the card using the procedures you used for the others, then close the card and reopen it (by moving to another card and then moving back to this card). The name should then appear in the Description field.

**Select the Browse tool from the Tools menu**

**Name the card USA (using Card info from the Objects menu)**

**Press the Right Arrow key then the Left Arrow key to come back**

The name is now in the Description field.





## 4. Creating the Country Cards


### Icon Buttons for the Welcome Card

## HyperCard

The purpose of the Welcome card is to display icon buttons for each country card thereby allowing the user to choose a direct destination. The icon is a visual aid to show the user the action of the button. You can choose from the catalog of icons offered by HyperCard which appears when you click the Icon... button in the Button Info dialog box. You can draw a picture for the icon yourself, or Copy/Paste one from the Scrapbook in which case the icon will not be attached to the button but rather superimposed on top of it.

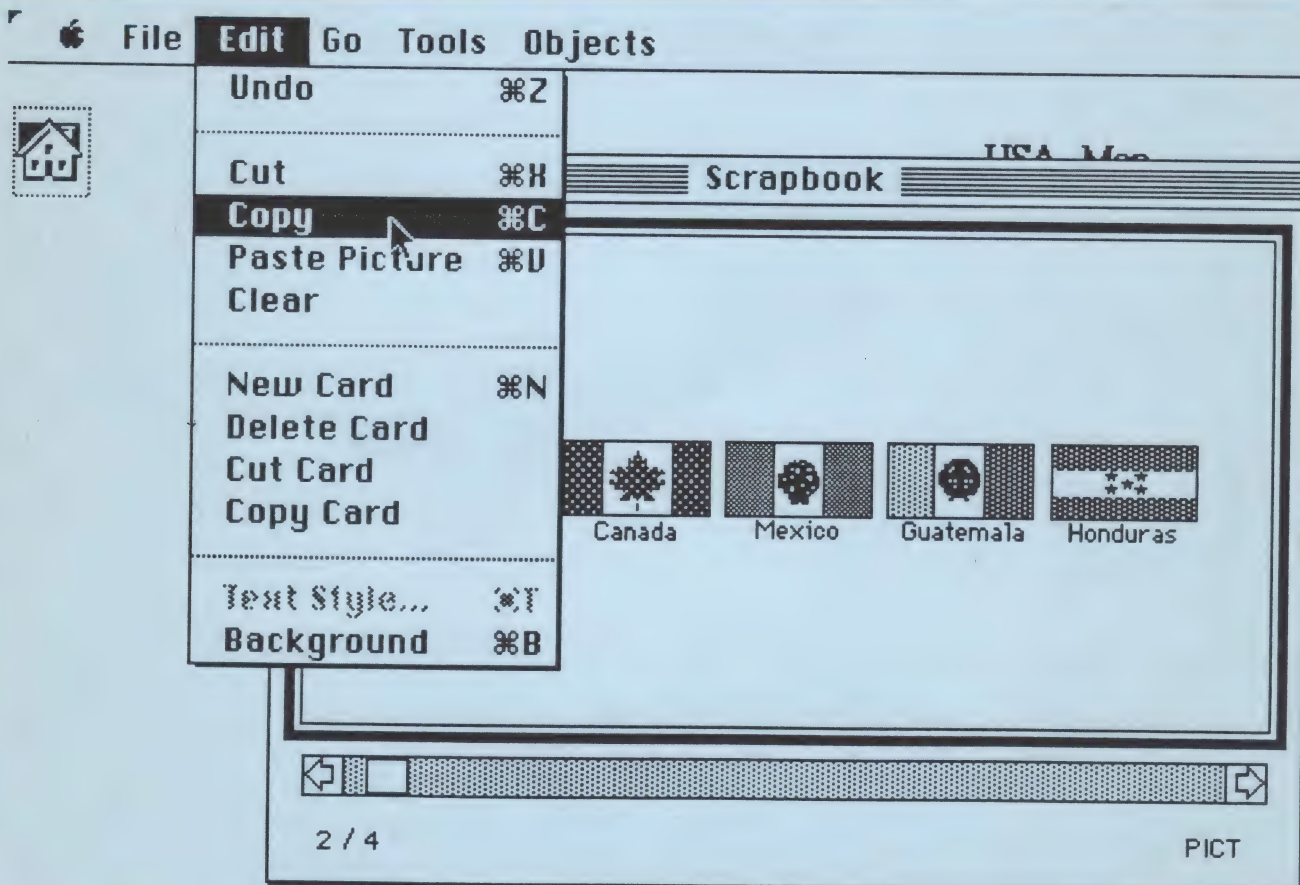
You're going to copy a picture of five flags from the Scrapbook and paste it onto the Welcome card of your stack.

**Go to the Welcome card (choose Go / First)**

**Choose Scrapbook from the  menu and select the flag picture**

**Choose Copy from the Edit menu and close the Scrapbook**

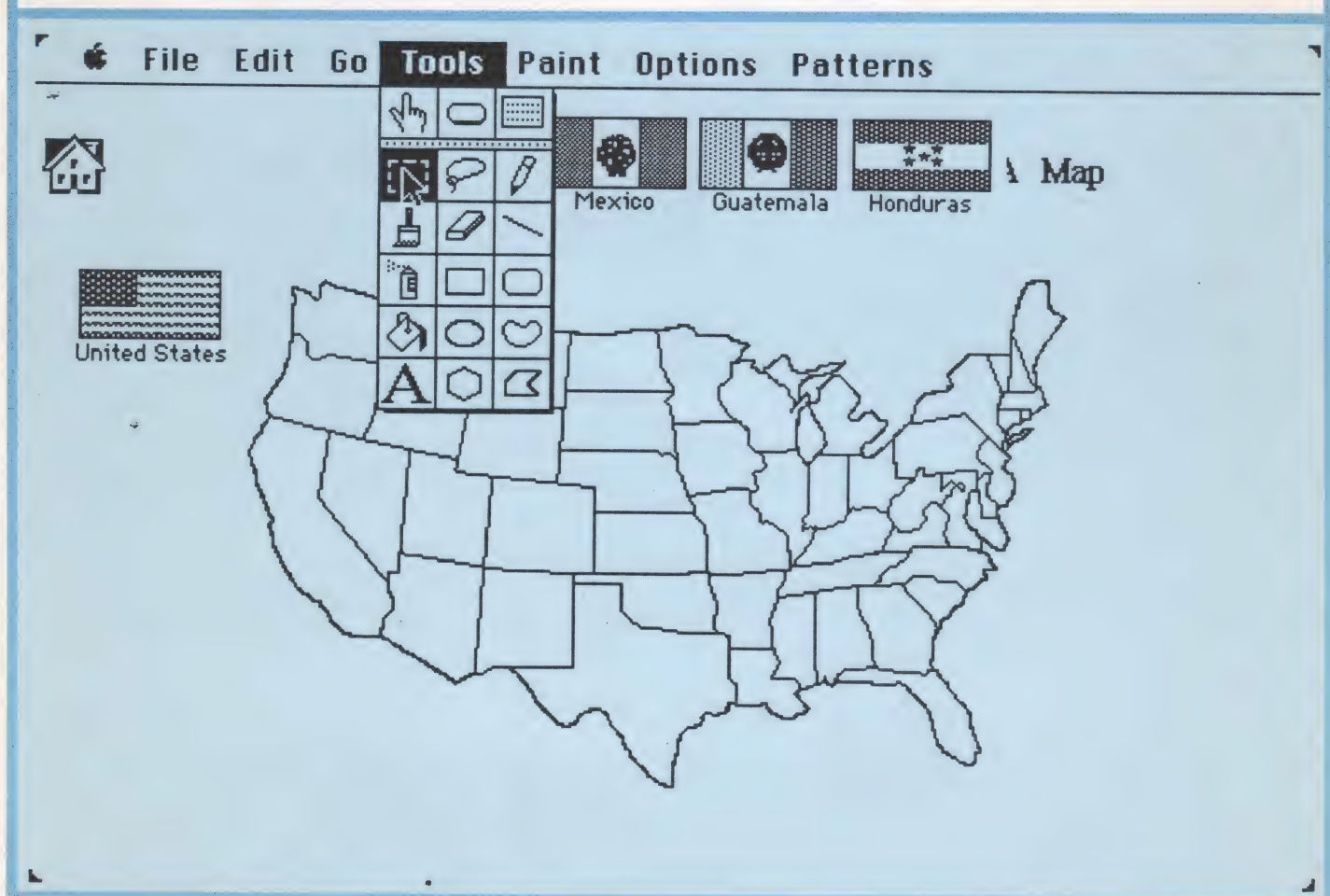
**Choose Paste Picture from the Edit menu**





To position the icons in the right places around the map, you need to select them one by one with the Selection Rectangle in the Tools menu.

Choose the Selection Rectangle from the **Tools** menu  
Drag round one of the flags to select it  
Position the flag where you want it  
Repeat the procedure for the other flags





## 4. Creating the Country Cards

### Creating Transparent Buttons

## HyperCard

The flag icons for the buttons are now in place. You'll now create a transparent button the size of a flag and place it on top of one of the flag icons.

To create the button, you can either choose **New Button** from the **Objects** menu, or create a button with no name from scratch by selecting the **Button** tool, holding down the **Command** key, and dragging the button to the desired size (this will be called "Command-drag").

**Select the Button tool and choose **New Button** from the **Objects** menu**

**Choose **Button Info...** from the same menu**

**Click **Transparent** and deselect the **Show name** check box**

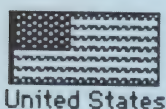
**Position this button on top of the flag of Mexico**

**Create buttons for the other icons by using the "Command-drag" method**

File Edit Go Tools Objects



USA Map



United States



Canada



Mexico



Guatemala



Honduras



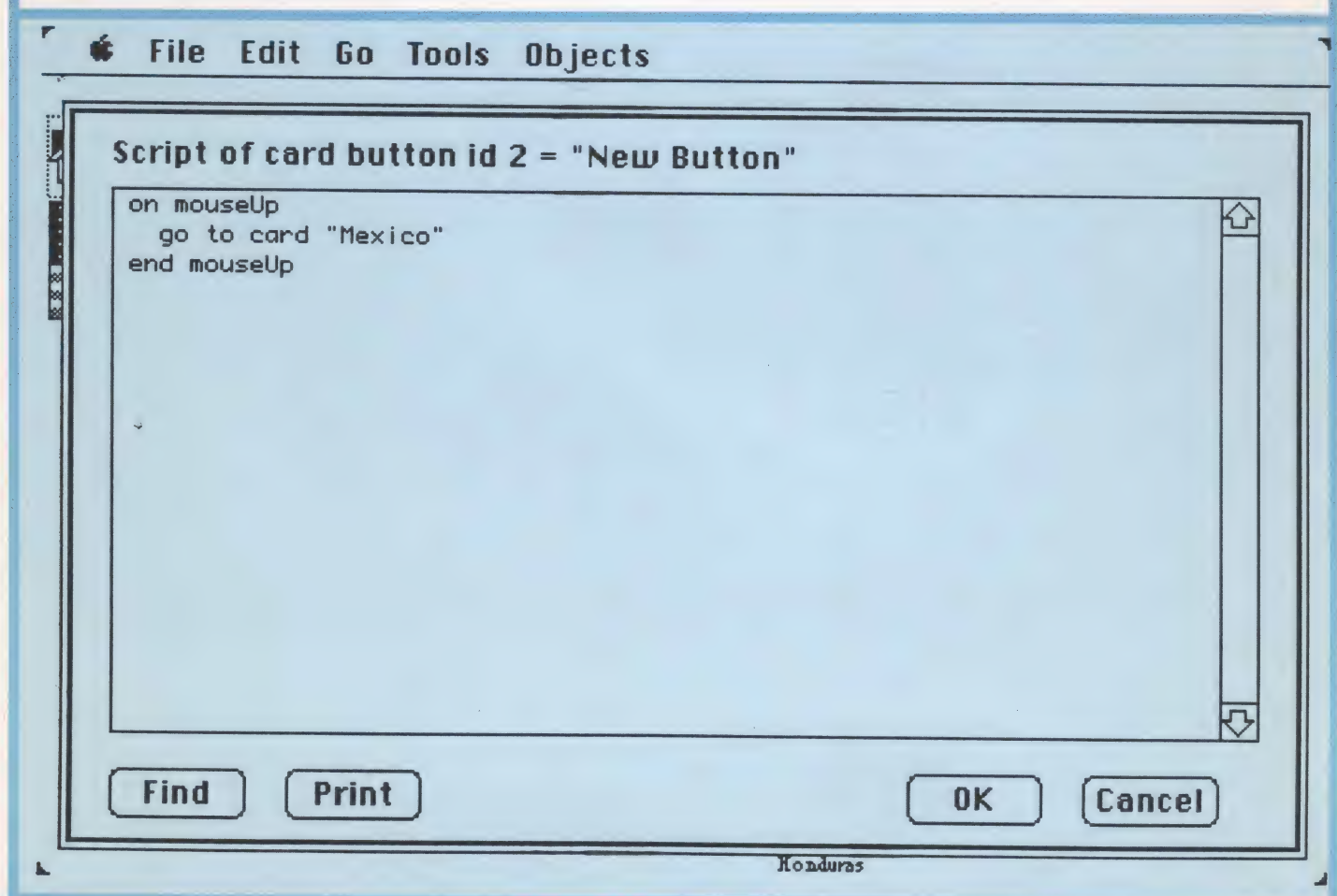
The script for these **destination** buttons will read: "when the flag-icon button is clicked, go to the corresponding country card." The script in the illustration below corresponds to the Mexican flag button. You'll just need to change the name for each of the others.

**Hold down the Shift key and double-click the Mexican flag button**

**Type the script shown below**

**Click OK to confirm**

**Repeat the procedure for the other buttons (Guatemala, Canada and Honduras)**





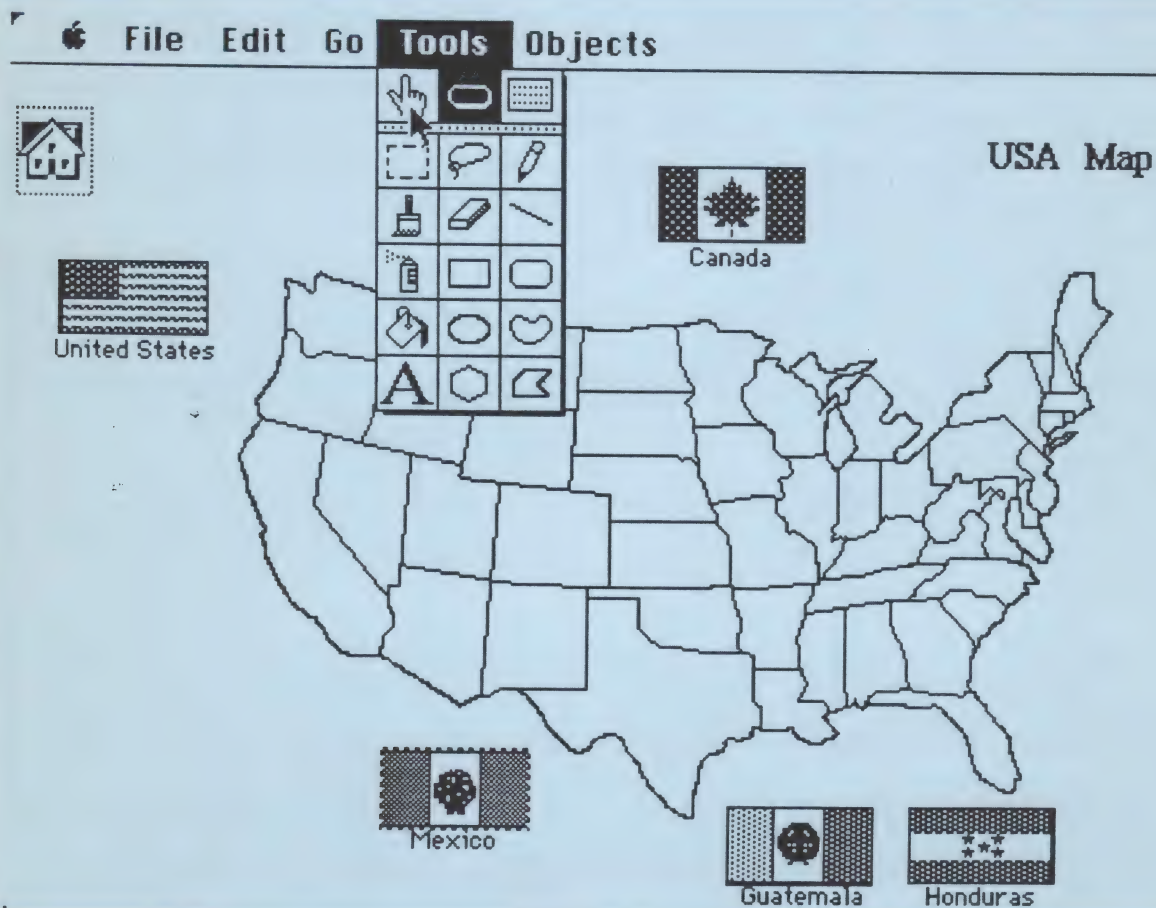
## 4. Creating the Country Cards

### Testing the Icon Buttons

# HyperCard

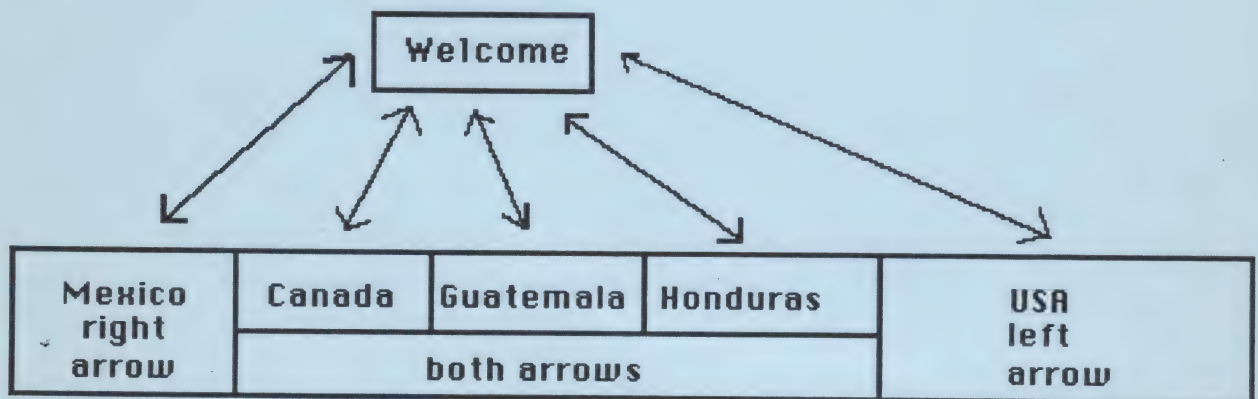
Make sure you choose Browse mode to test these buttons, then use the Home button to go back to the Welcome card.

Select the Browse tool from the **Tools** menu  
Test your new buttons





Creating the Next Country Button  
Physical Characteristics  
The Script  
Copying the New Button  
Pasting the New Button  
Creating the Previous Country Button  
Copy/Pasting the Previous Country Button  
Tree and Linear Structures





## 5. Navigating Between Countries

### Creating the Next Country Button

## HyperCard

In this short chapter you'll create navigation buttons allowing the user to travel from one adjacent country to another without having to go through the Welcome card.

You need a "Next" button and a "Previous" button on all the cards except the first and last, which will have one or the other.

Start by creating a Next button on the first country card (Mexico) which will let you navigate to the other cards via Guatemala, Honduras, Canada, and the United States.

You can use a simple right-pointing arrow icon for the Next button.

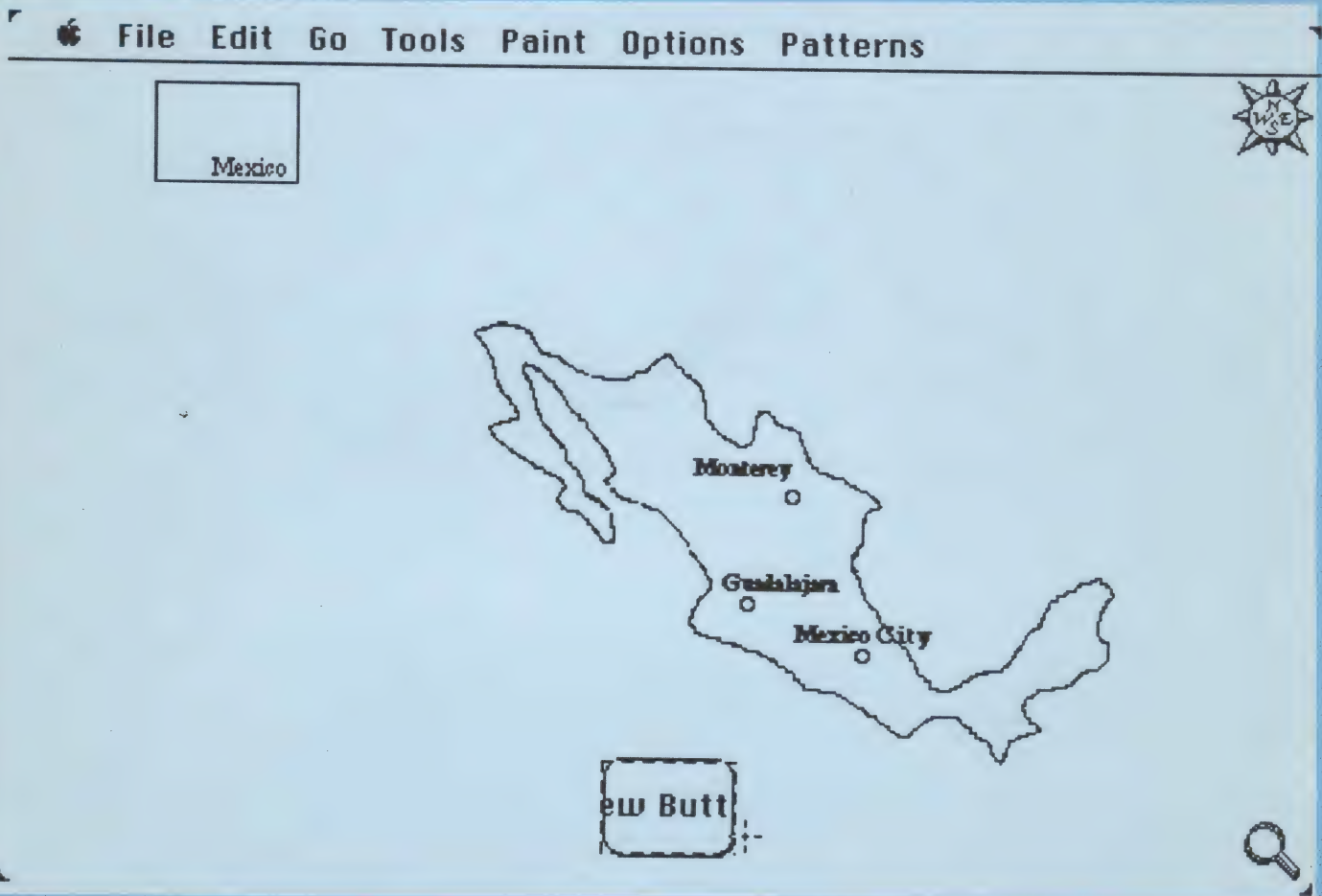
**Go to the map of Mexico card**

**Choose New Button from the Objects menu**

**(this command automatically selects the Button tool)**

**Click and drag the new button to resize it**

**Position on the lower right of the card**





You have changed the size and position of the button. When you chose the New Button command, a standard rounded rectangle style button with the name "New Button" appeared in the center of the screen. You're now going to transform it into a transparent button, hide its name, and choose a right-pointing arrow from the catalog in the Icon dialog box.

**Double-click the new button**

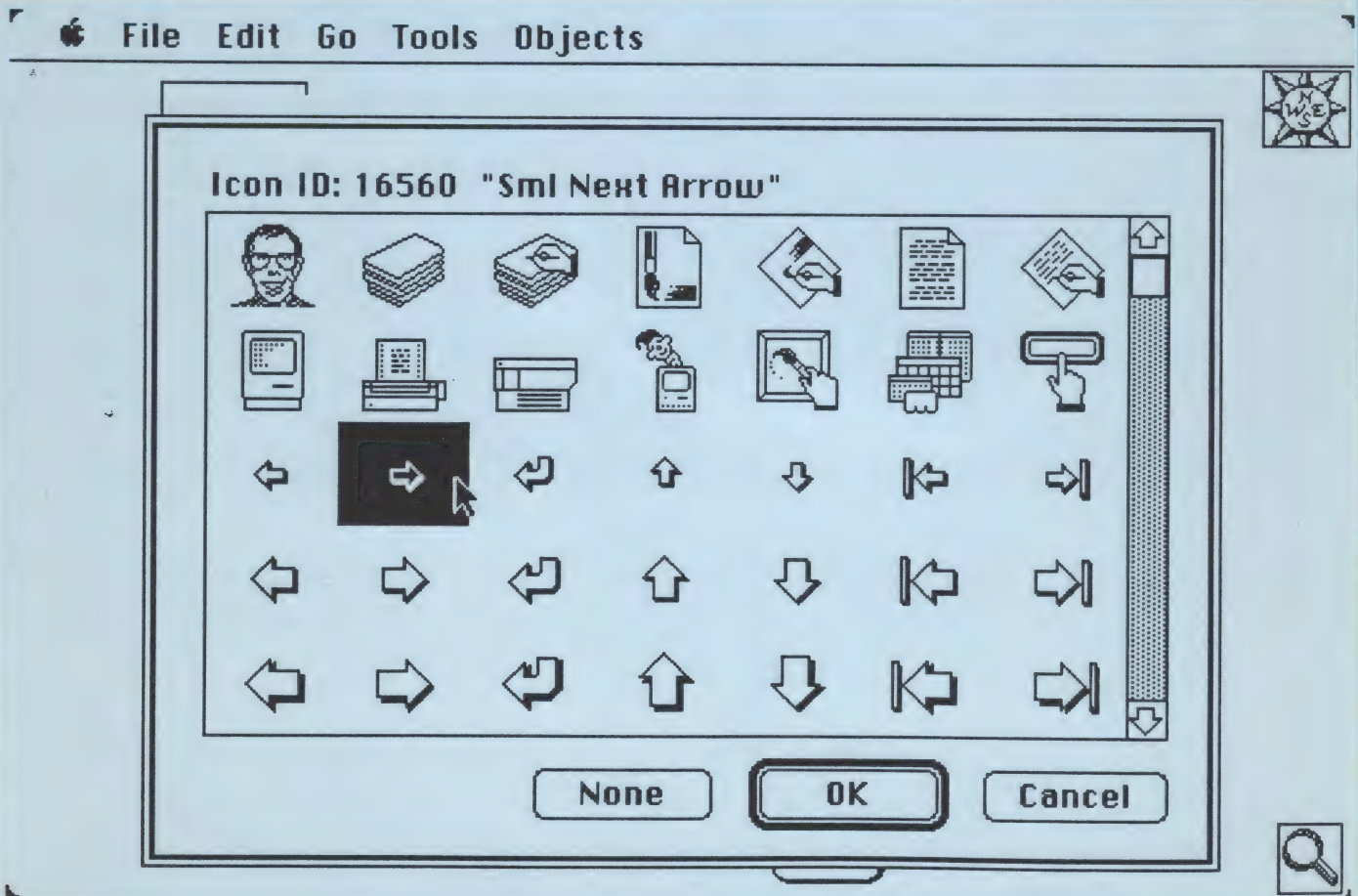
**Click *transparent* in the Button Info dialog box**

**Deselect the *Show name* check box**

**Click *Icon...***

**Select the small right-pointing arrow icon**

**Click *OK* to confirm**





## 5. Navigating Between Countries

### The Script

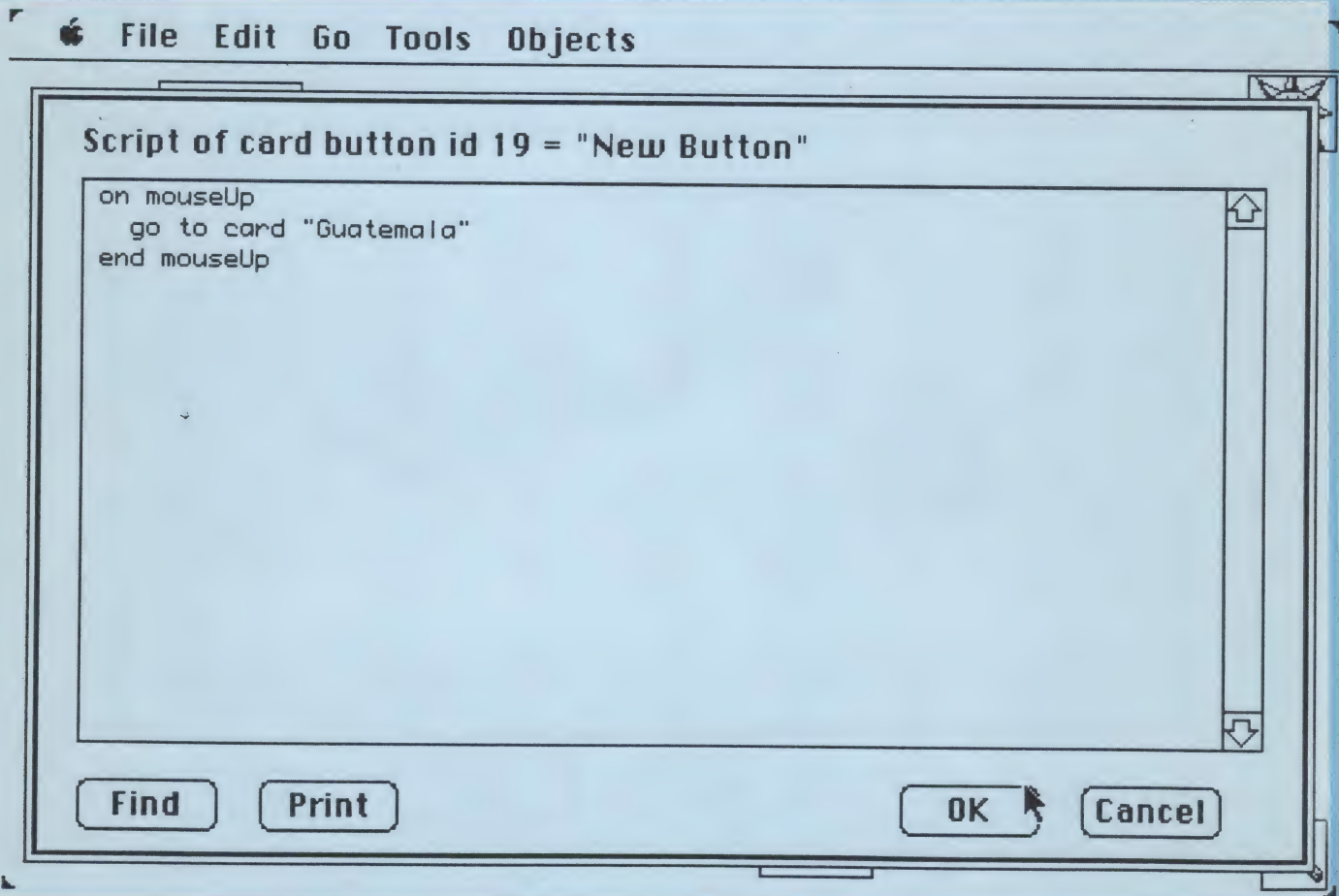
## HyperCard

As you saw before, when you create a button with the New Button command, HyperCard starts the button script for you. The cursor is ready for you to type in a command between the two lines. When you click the right-pointing arrow icon, you want to go in the direction Mexico, Guatemala, Canada, Honduras, and the United States.

The command, go to card "Guatemala," takes you to the card with that name, no matter where it falls in the stack.

On the other hand, the command "go to next card" takes you to the next card in the stack, in the order in which the cards were created. This command should be used with caution, since the order of card creation isn't necessarily the desired order of use. It's true in this case, since the Canada card was created before the Honduras card.

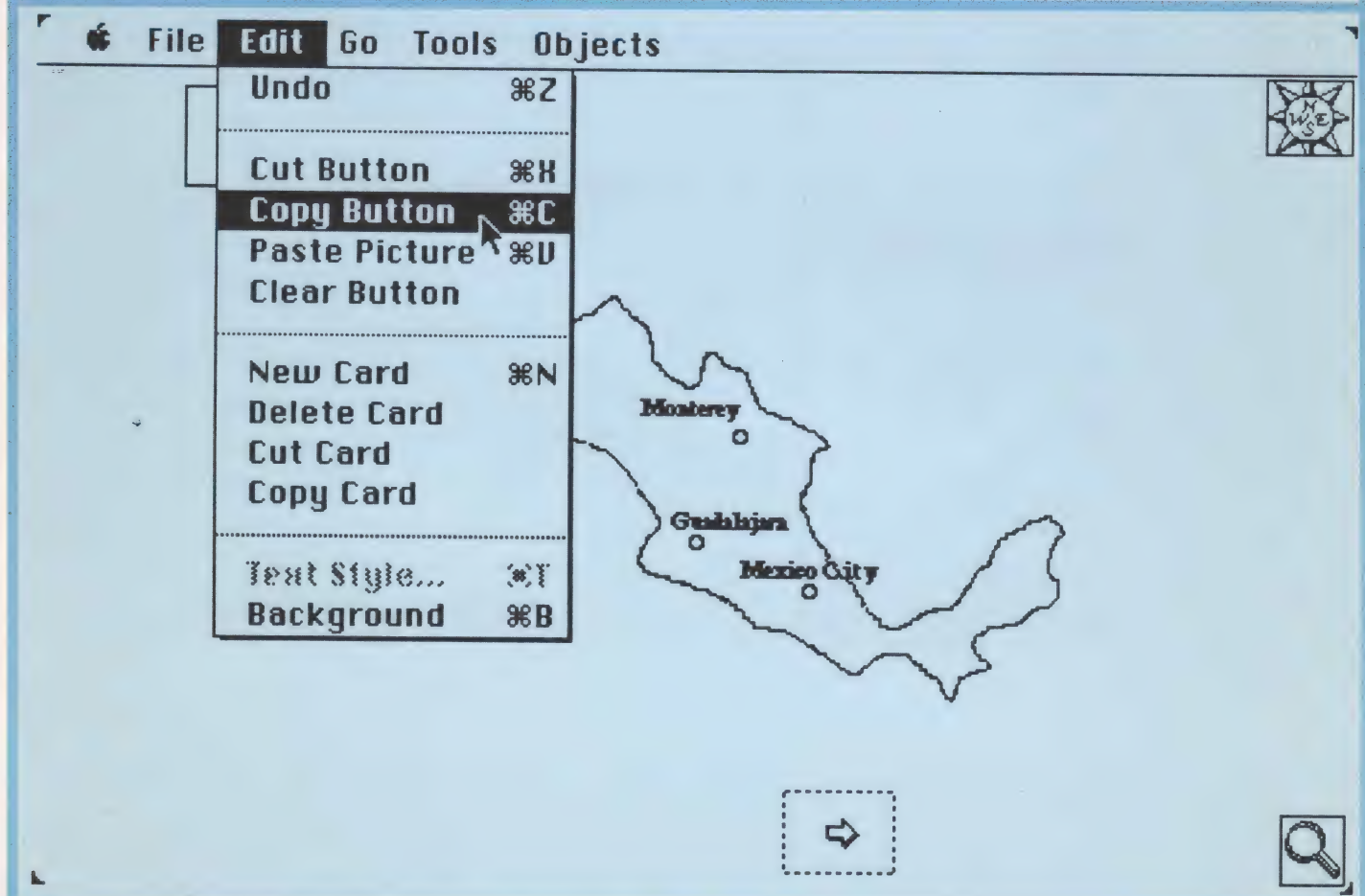
**Hold the Shift key and double-click to open the Button Script Box**  
**Type the script as shown below**  
**Click OK to confirm**





This new button can now be copied to each card in the stack beginning with the card Guatemala. The Copy/Paste function will copy all the properties of the button giving you buttons of the same size, with the same script, and with the same position on each card.

**Choose Copy Button from the Edit menu**





## 5. Navigating Between Countries

### Pasting the New Button

## HyperCard

Press the right arrow key on the keyboard to go to the card Guatemala  
Choose **Paste Button** from the **Edit** menu (Command-V)

The Next button is pasted on the same spot as on the previous card. This gives you navigation buttons with an uniformity of position on each card, allowing a certain ease of use (the user won't need to change the position of the mouse on the desktop to move from one card to the next).

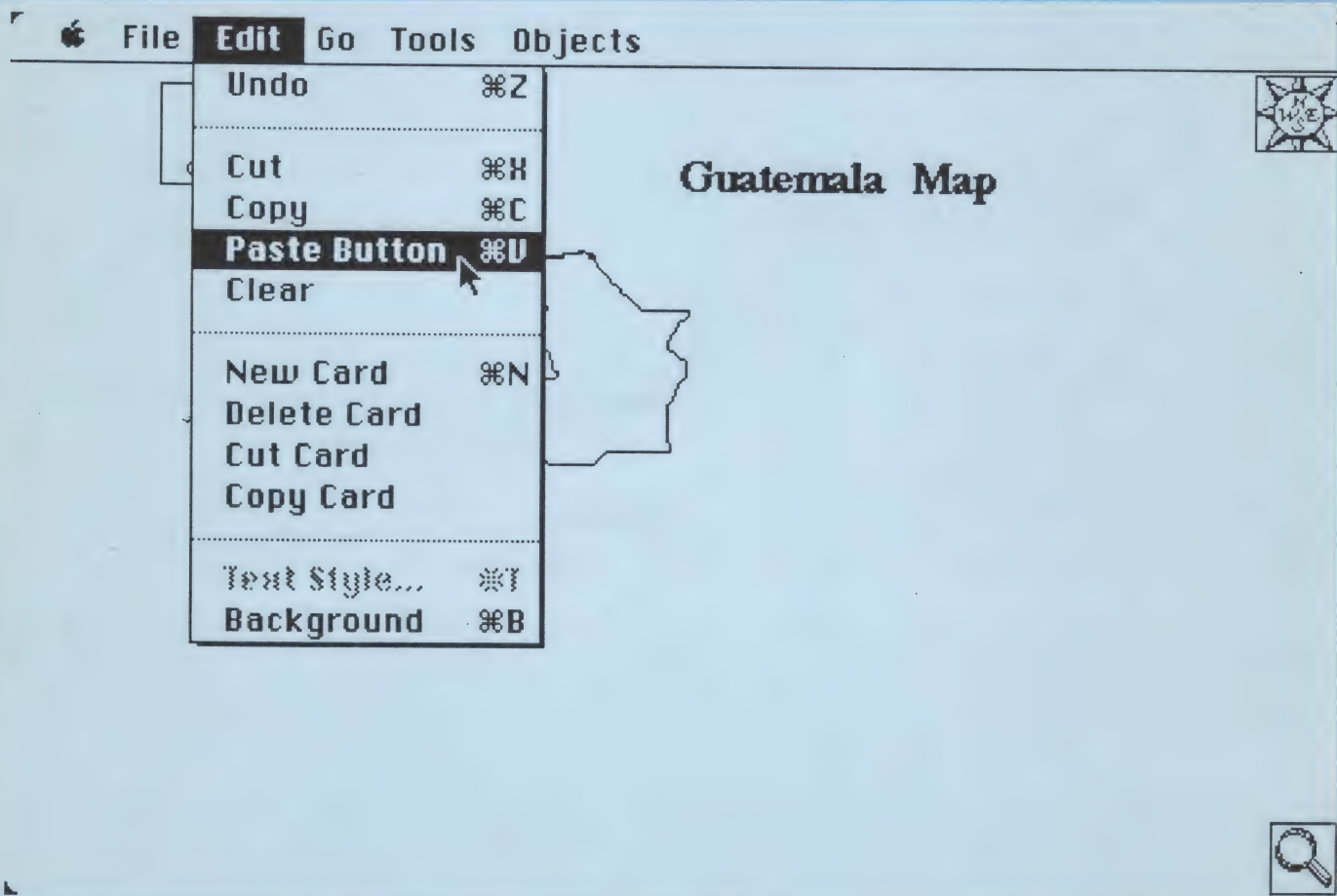
You need to replace the button script for each card adding the names of the countries in the order you want to navigate. This button will not figure on the United States card as it is the last card in the stack. The copied button is still stored in the Clipboard so you can paste it as many times as necessary.

Shift double-click to open the Button Script Box

Replace the name Guatemala with Canada and click OK

Repeat the procedure for Canada and Honduras (moving forward with Right Arrow key on keyboard)

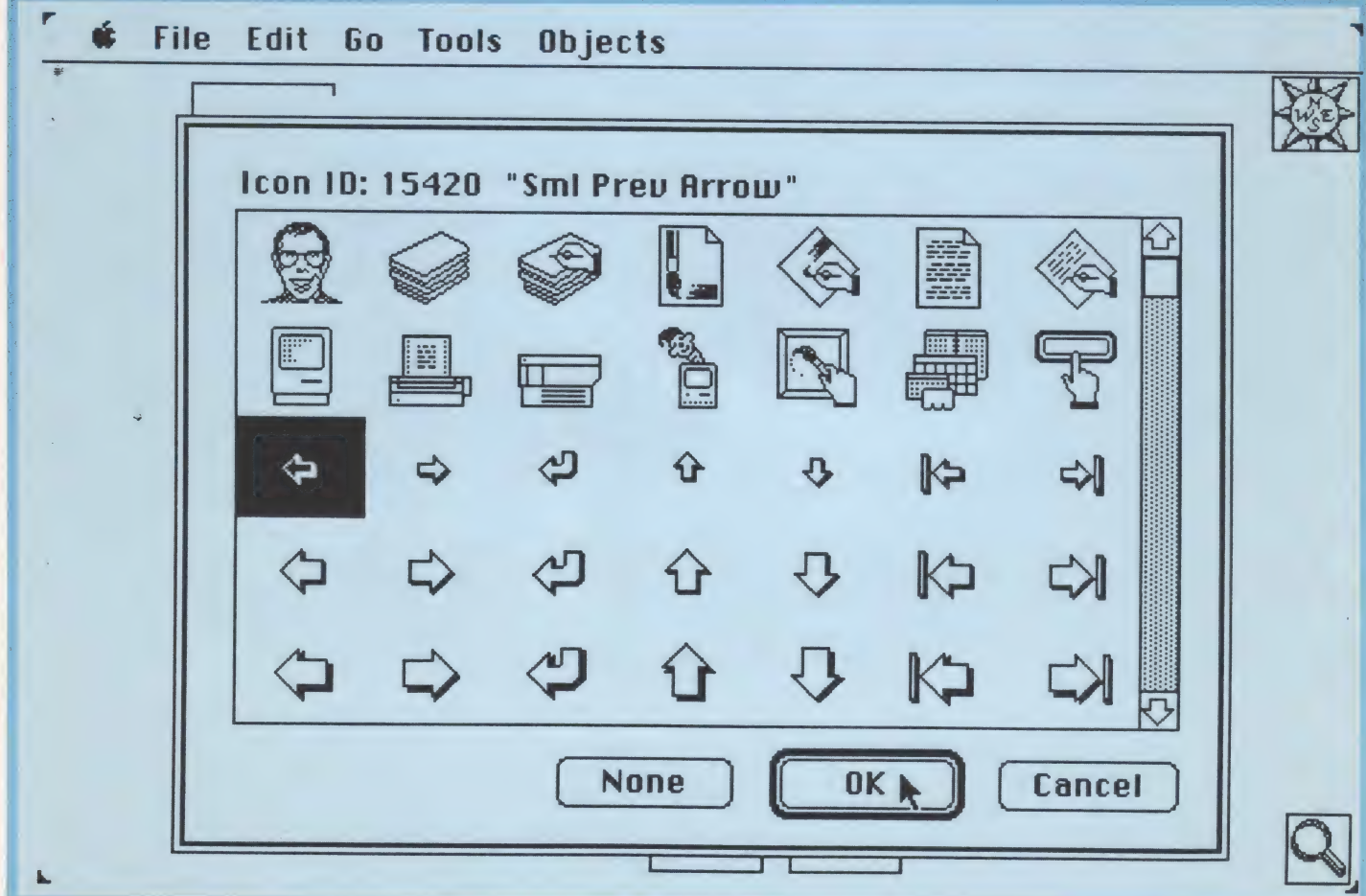
**Note:** Don't forget the order of navigation : Mexico- Guatemala - Canada - Honduras -United States.





Like the button you just created, the "Previous" button will be transparent with its name hidden. This time the icon will be a left-pointing arrow. The button script action will flip the cards in the opposite direction (here, Guatemala to Mexico). To keep the same size of button, you just need to paste the "Next" button (if it's still held in the Clipboard), align it with the first button, replace the icon, and change the country of destination in the scripts.

- Go to the card "Guatemala" using the arrow keys on the keyboard
- Choose **Paste Button** from the **Edit** menu (Command-V)
- (Copy the Next button first if it's not still in the Clipboard (by Edit / Copy Button)
- Click and drag the new button aligning it to the left of the previously created button
- Choose **Button info** from the **Objects** menu then click **Icon**
- Choose the left-pointing arrow icon
- Change the script (go to "Mexico")





## 5. Navigating Between Countries

### Copy/Pasting the Previous Country Button

## HyperCard

You now understand the method. Copy/Paste the "Previous" button onto all the destination cards except, of course, for the first one (Mexico.)

**Select the left pointing arrow (if it is not already selected)**

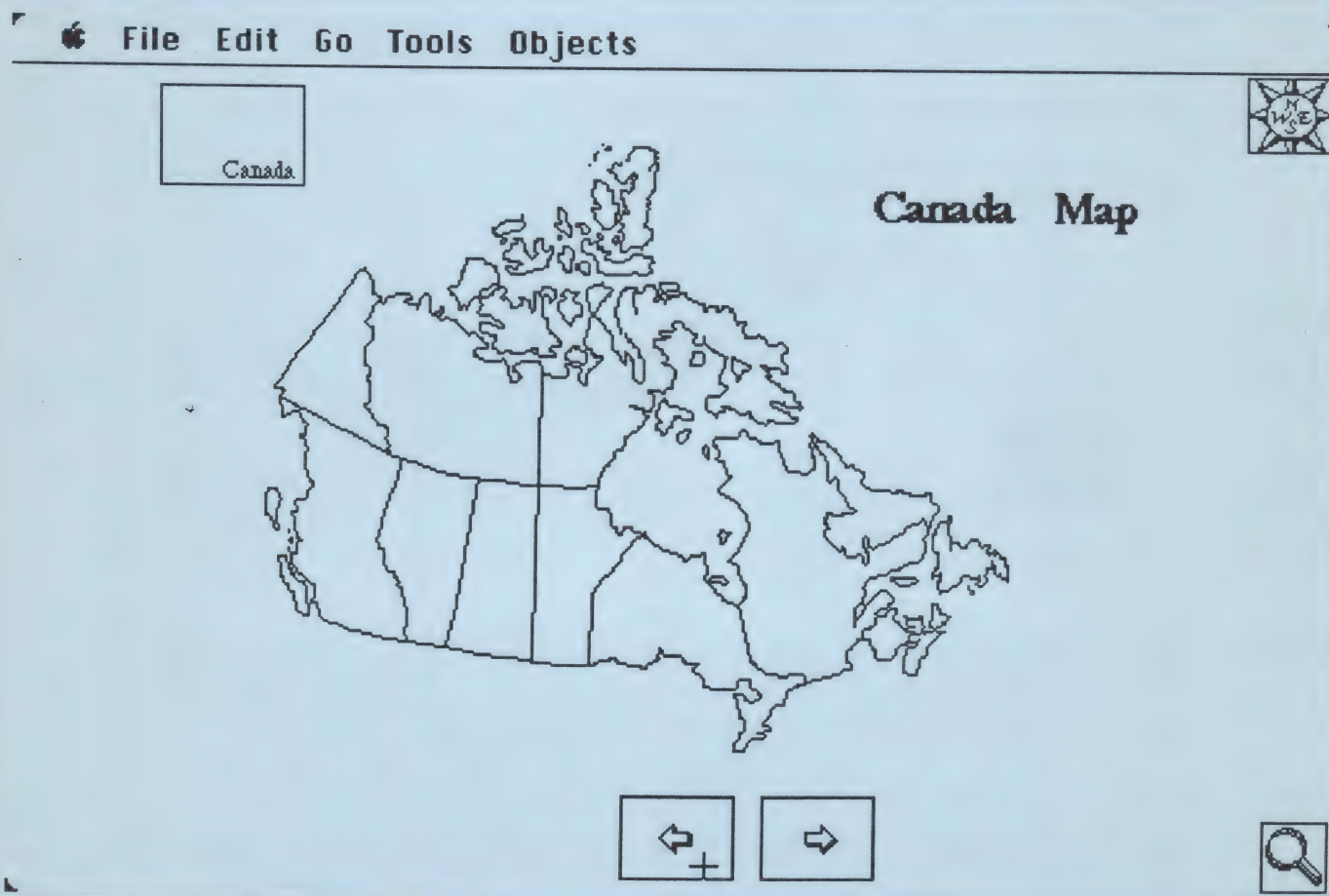
**Choose Copy Button from the Edit menu (Command-C)**

**Go to the next card (Canada)**

**Choose Paste Button from the Edit menu (Command-V)**

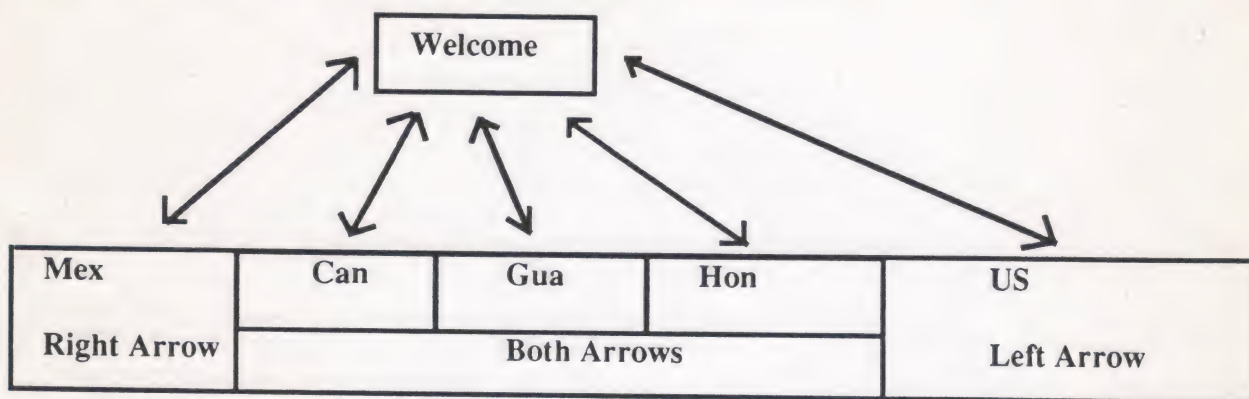
The order of the countries is now: United States, Honduras, Canada, Guatemala, Mexico.

**Paste the button and change the scripts for each card**





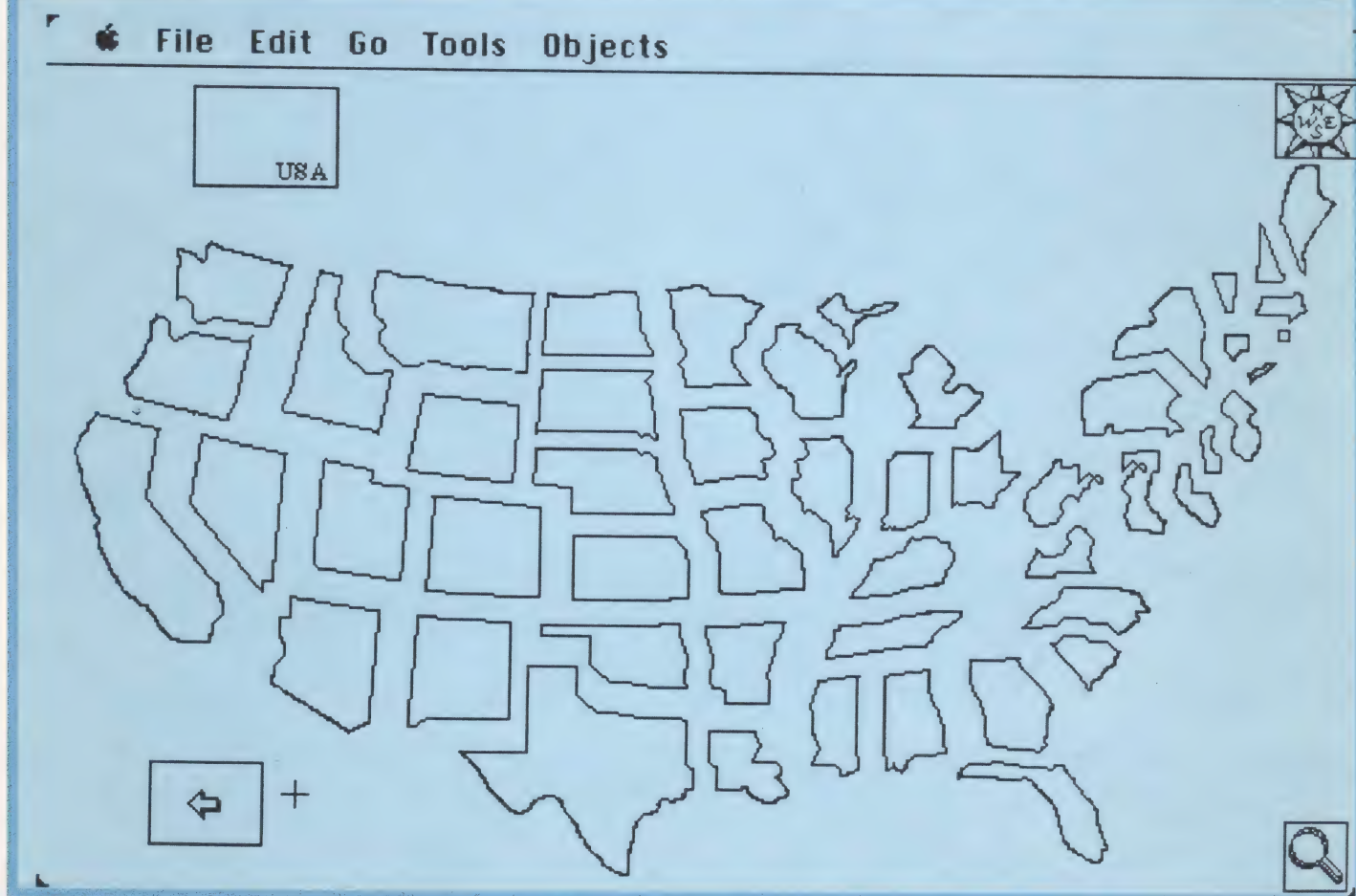
Check the order of the cards in your stack against the outline shown below. The first and last country cards should only have one (next or previous) navigation button.



Move the Previous button to the bottom left corner

As the icon is associated to the button, it will be moved at the same time.

Test the buttons in Browse mode

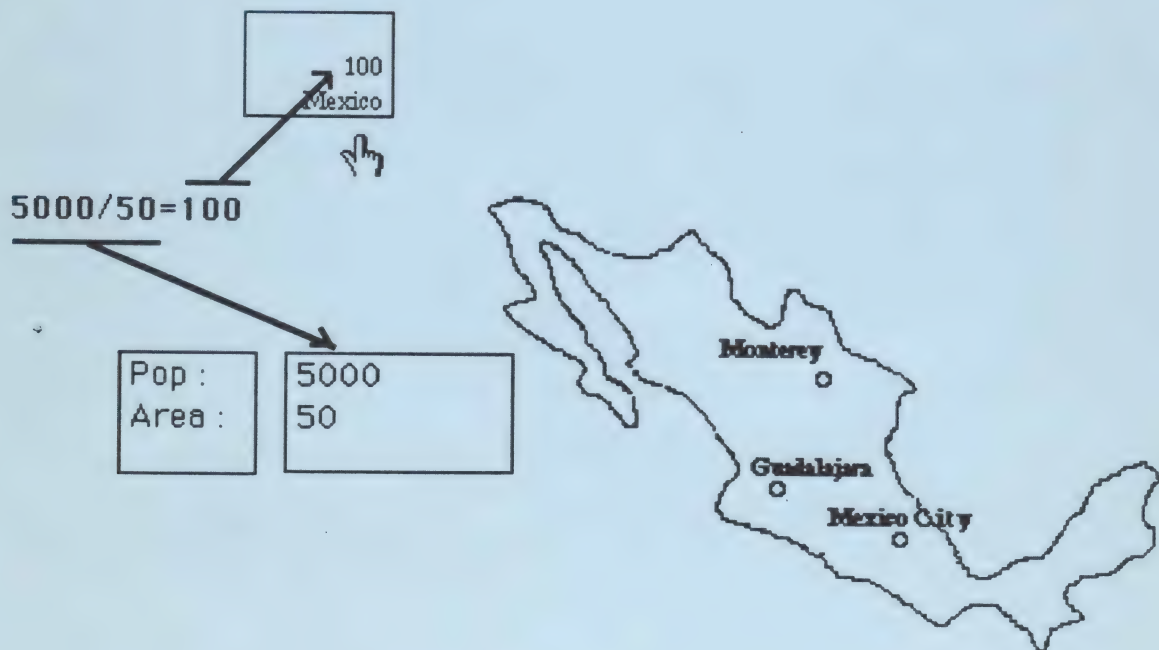




# HyperCard



- Creating a new Field
- Naming the card field
- Creating the Information Field
- Entering Labels in the Field Text
- The Script for the Pop field
- Writing the Field Script
- Calculating
- Calculation for the Second Country





## 6. A Calculation Field

### Creating a new field

## HyperCard

Although in this guide we won't be going into all the arithmetic possibilities of HyperCard, we can give you a taste of some of the simpler calculation functions that you can use in your cards and stacks. You've created a system for navigating around the countries to visit and now you can add some elements that will allow you to display the surface and population density on two of your cards. You'll create two fields, one containing labels and the other containing information about the number of inhabitants and the surface area of a country. With this information you can calculate the population density of the country and display the result in the Description field (which already contains the name of the country on each card).

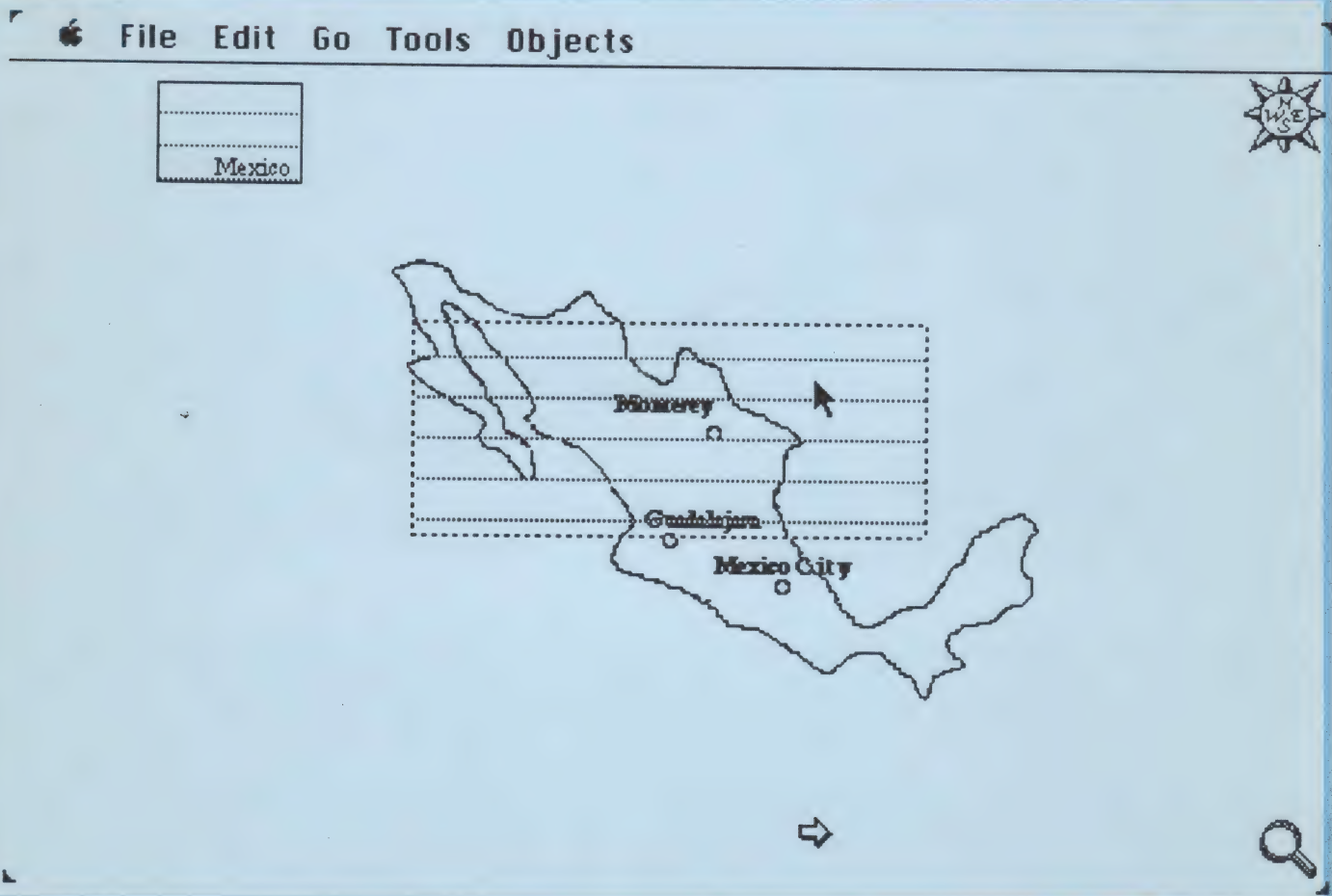
Should these fields be created as card fields or background fields? As the maps of the countries are not of the same size, you will not place the fields in the same place for every card, so you'll create card fields.

Begin by creating a field which will contain labels describing the numbers in the second field (population and area).

**Go to the Mexico card**

**Choose New Field from the Objects menu**

This command automatically selects the Field tool and displays a standard transparent field in the center of the screen.





Name this field, which will contain the labels, "Text".

Like as other HyperCard objects, each field has an order of creation number and a unique ID number.

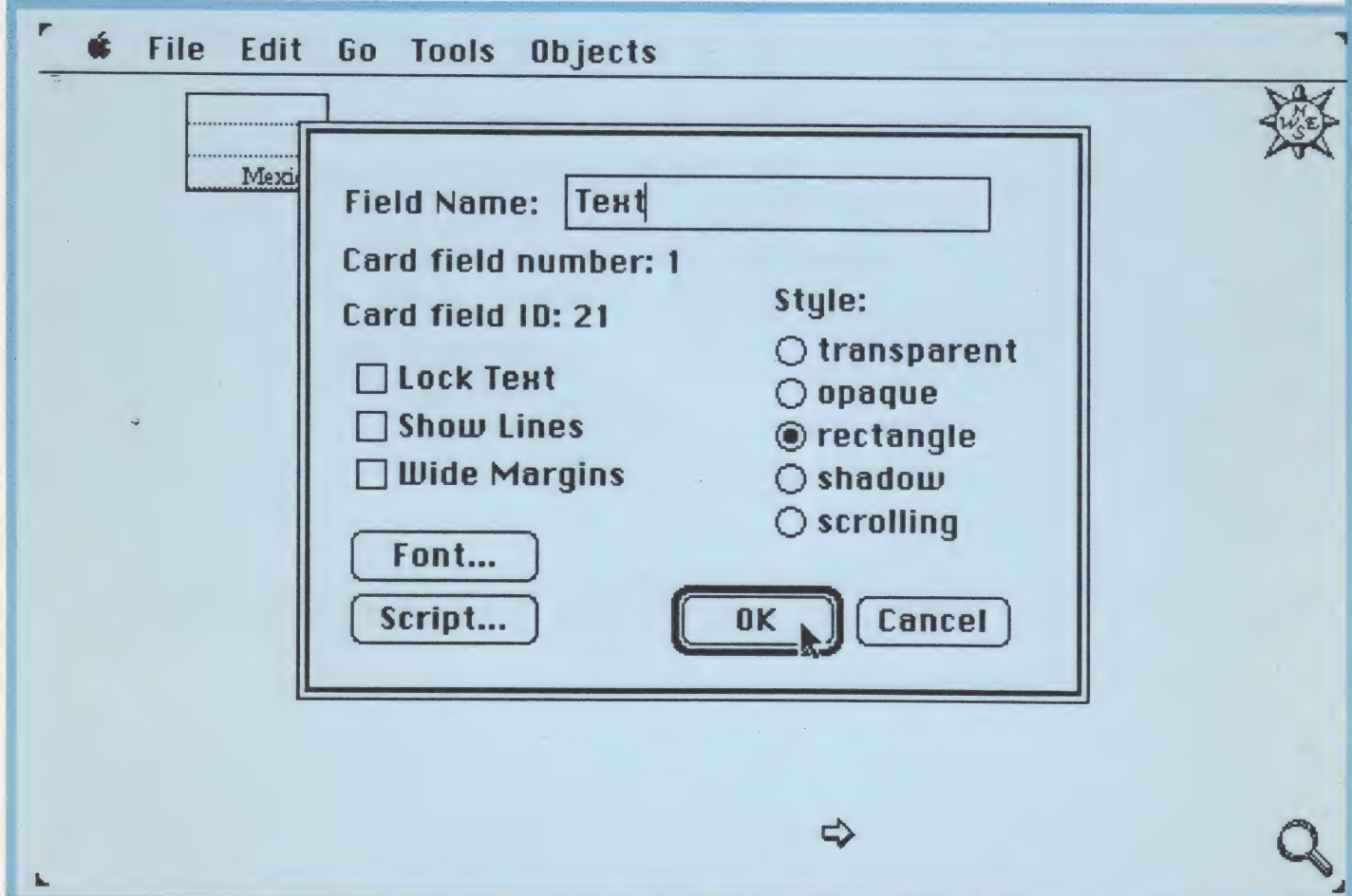
**Double-click on the field**

**Click the Rectangle Style button**

**Type the name Text**

**Click OK to confirm**

**Reduce the size of the field and position to the left of the map**





## 6. A Calculation Field

### Creating the Information Field

# HyperCard

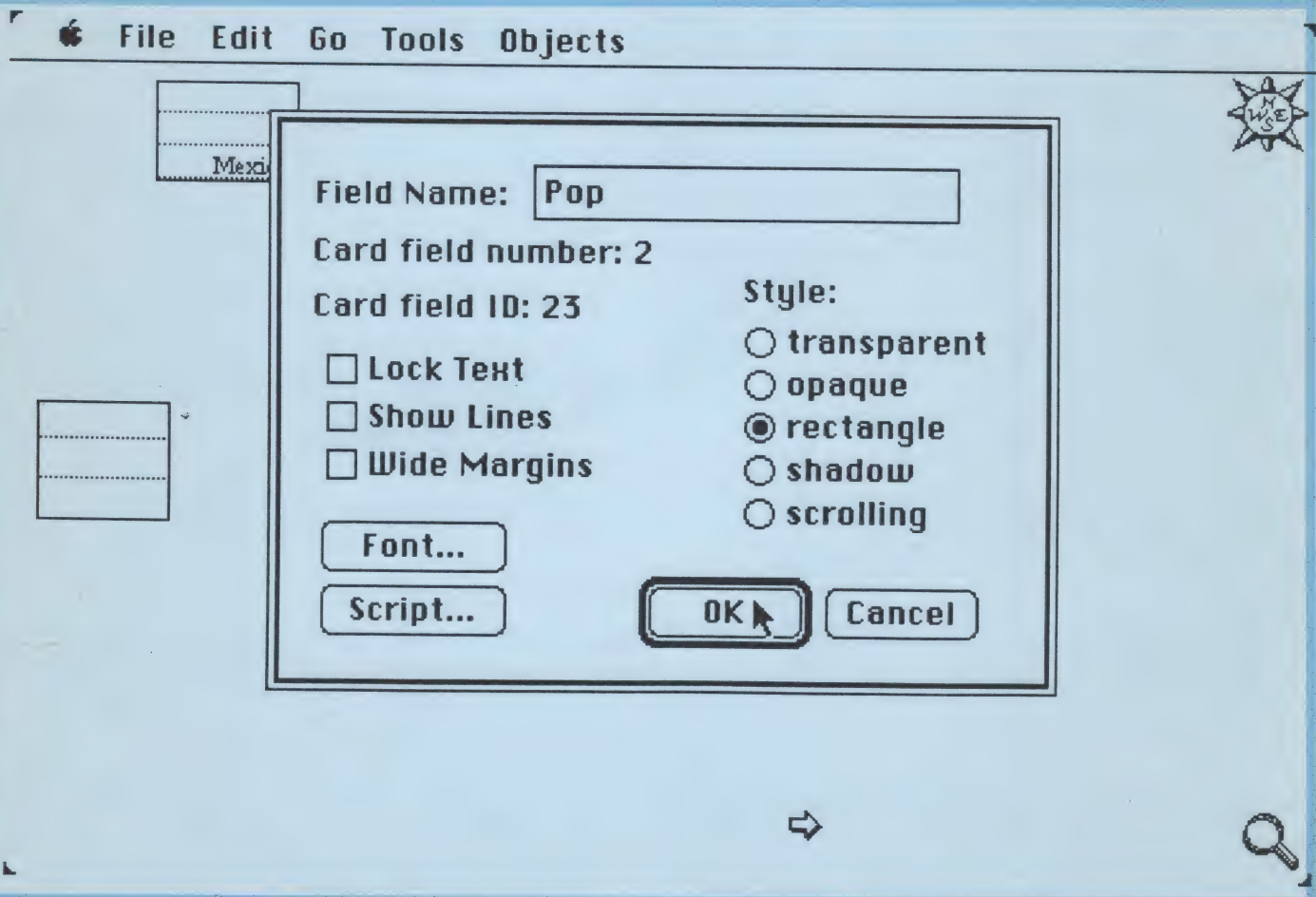
Next, you want to create a field which will contain the population and surface area information for calculating the population density of the country.

Name this new field, "Pop".

**Create a rectangular field and type the name Pop**

**Click OK to confirm**

**Resize the field and position it beside the Text field**





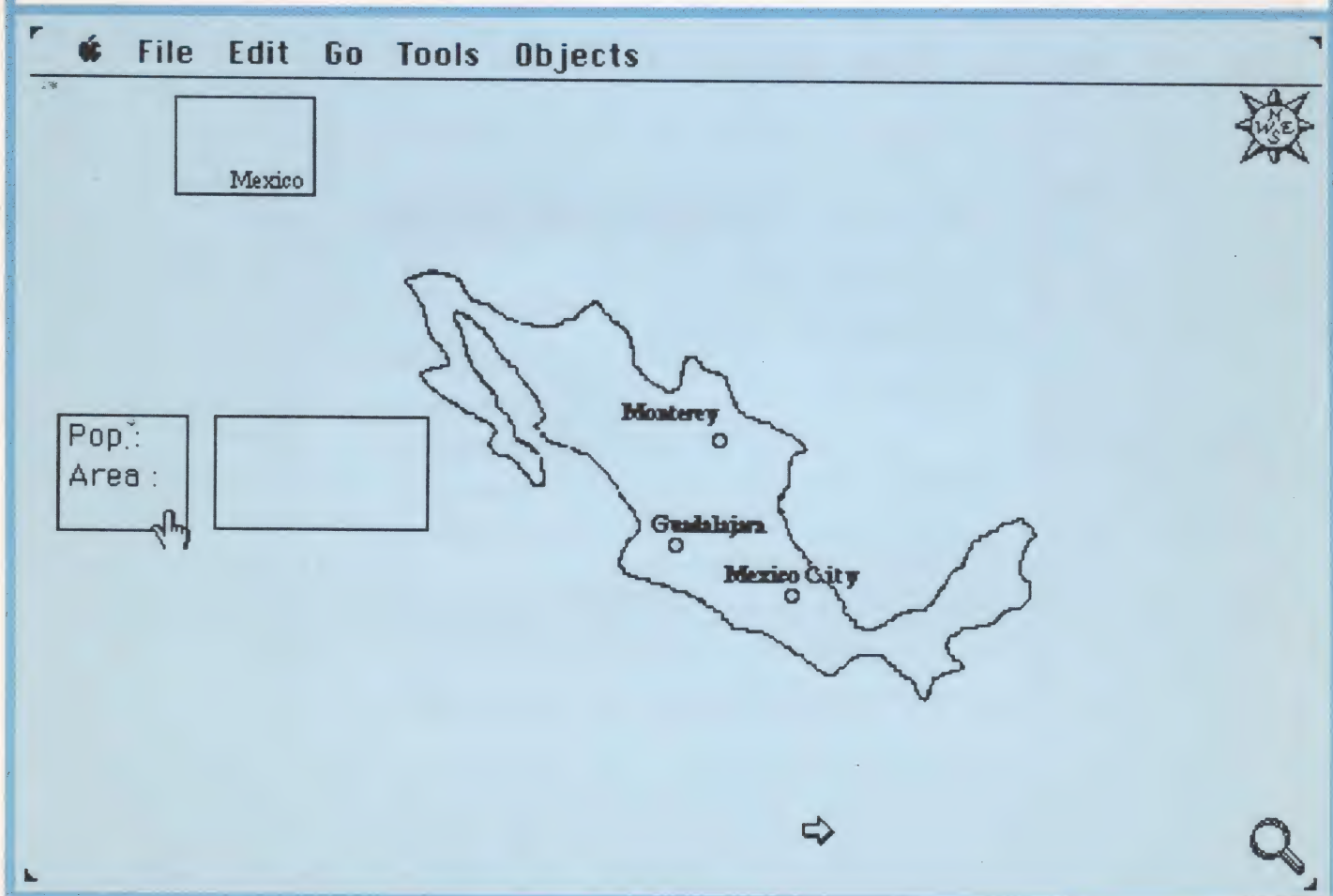
Remember that when you type text in a field, pressing the Tab key automatically selects the Browse tool and jumps the insertion point to the first field created, then to the second, and so on. You can either press Tab to enter text in the first field, or select the Browse tool and click in the field.

Press the Enter key to confirm the entry of text in a field and not the Return key (which is used to create a new paragraph in the text).

**Use the Tab key to position the insertion point  
on the first line of the Text field**

You are automatically in Browse mode.

**Type the text shown below  
Press Enter to confirm**





## 6. A Calculation Field

### The Script for the Pop field

## HyperCard

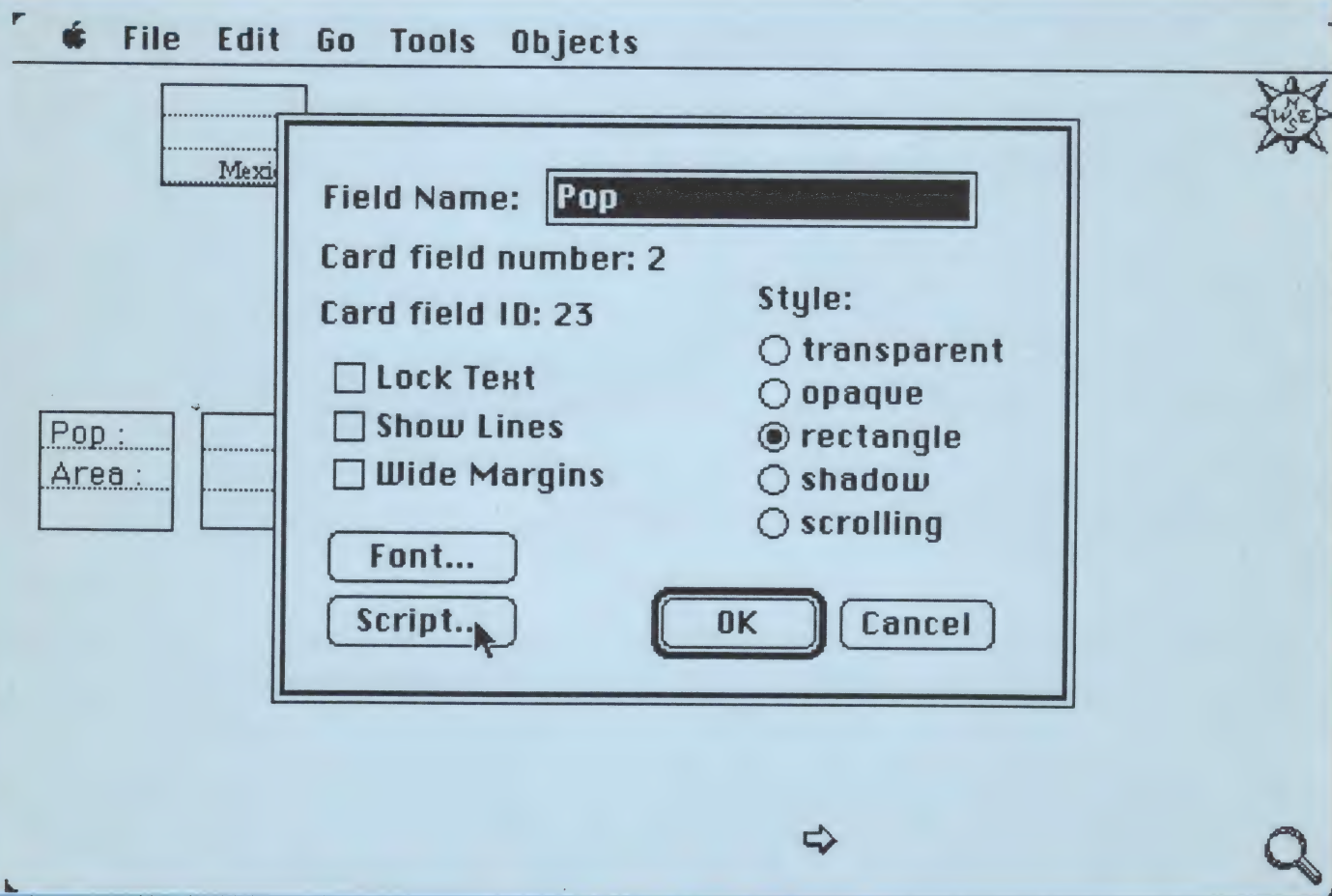
With the two fields for the labels and the information now in place on the card, you need to write the script which will calculate the population density of the country, and display the result in the field Description.

Write the script in the field Pop, since this is the field that will contain the information to be calculated.

Choose the Field tool from the **Tools** menu

Double-click the field Pop

Click the **Script...** button





You're going to use the following algorithm for your script:

When the text has been entered (on closefield)

Calculate the density (line 1... / line 2...).

Fields have a word processing-type structure, hence "line 2" rather than "record 2" in describing the line in the field for Area, for example.

"Put" the density result "into" line 2 of the field Description.

That's all (end closefield)

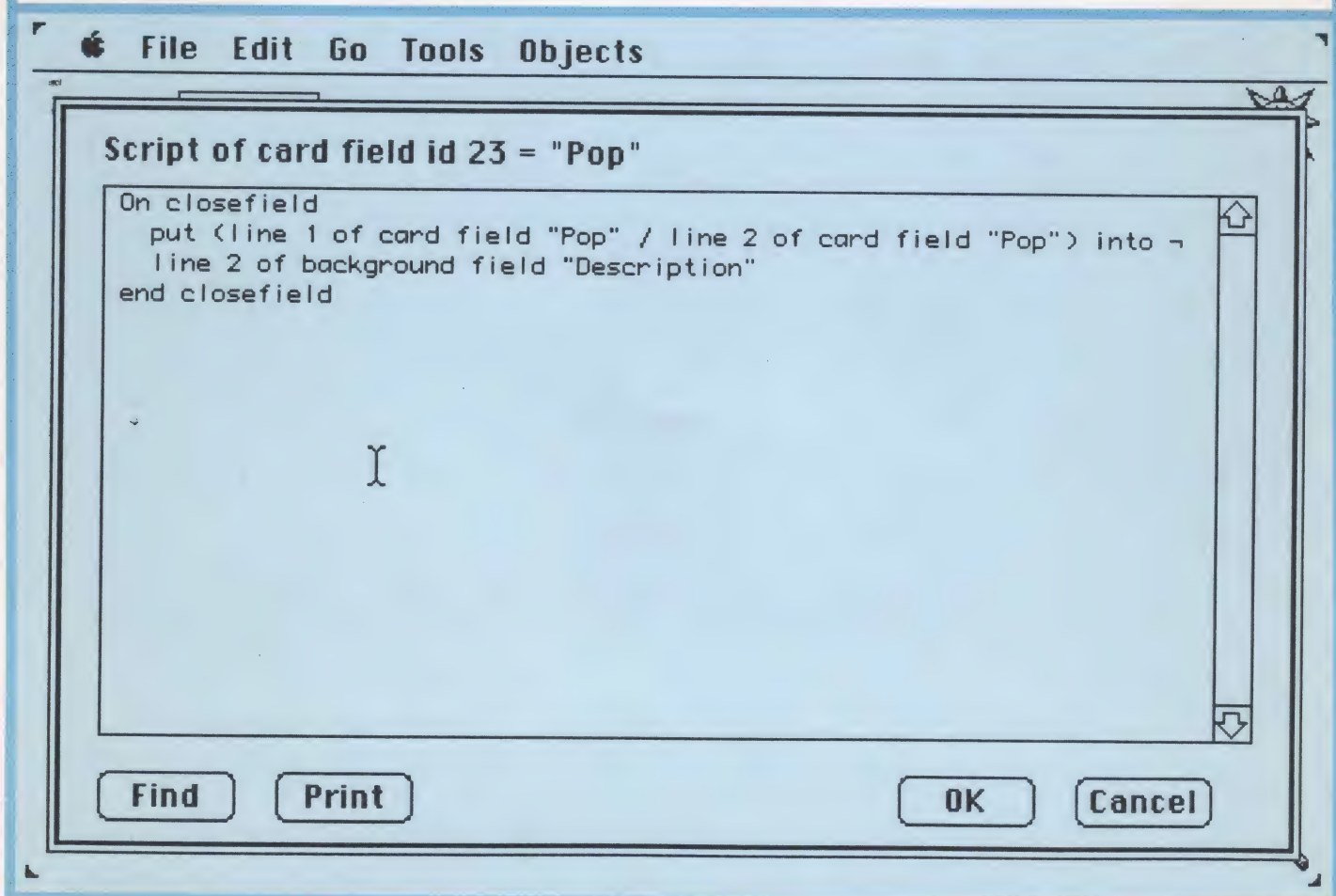
You must always use the full name of the field specifying the word "card" or "background."

If the command you're typing into the script is too long to fit on, you can hold down Option and press Return to wrap the text around to the next line. As spaces and punctuation marks are used as separators in the HyperTalk language, pressing Return would create a new line in the script.

Type the script shown below

(Press Option - Return to break the line if necessary)

Click OK to confirm





## 6. A Calculation Field

### Calculating

## HyperCard

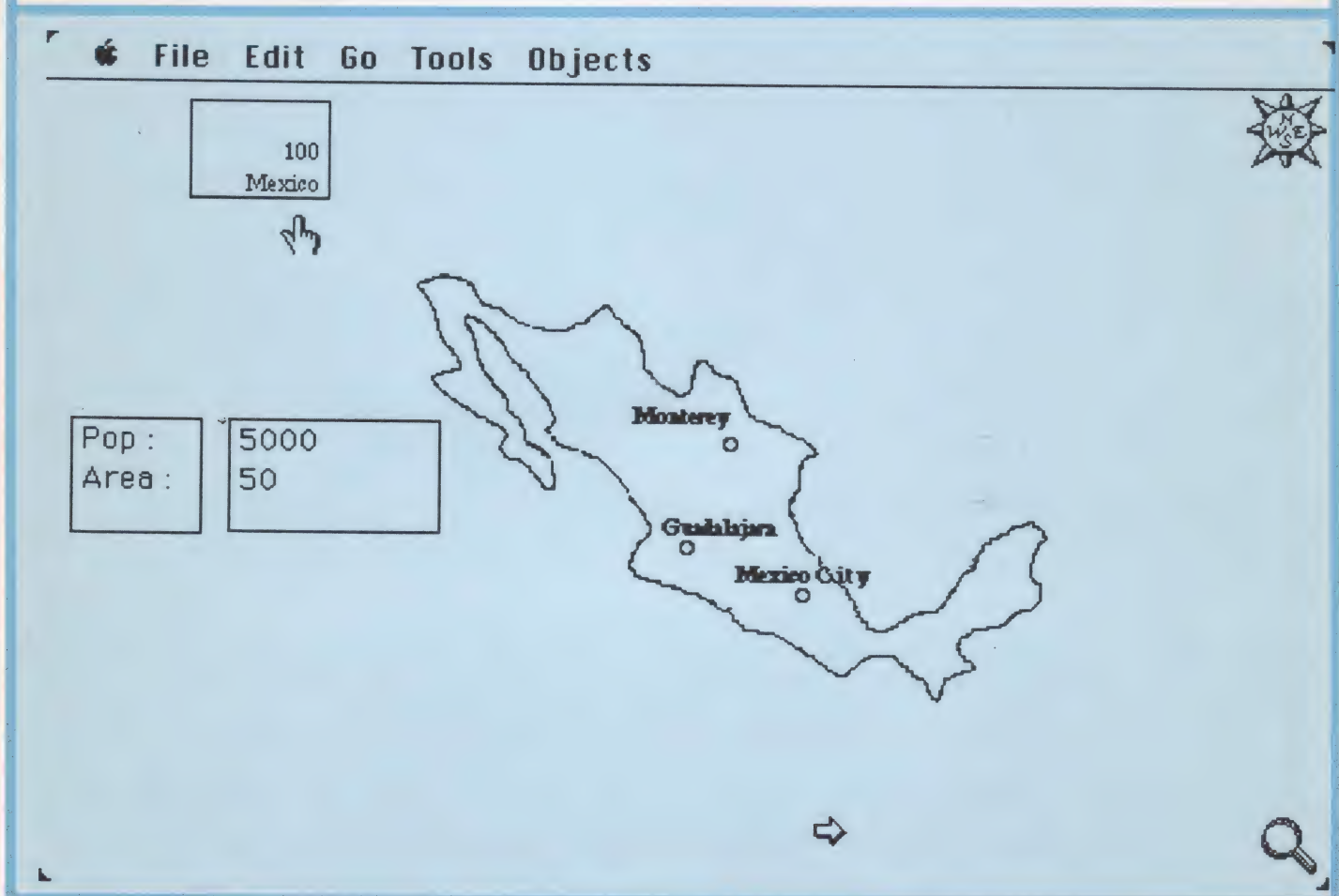
Choose Browse mode to test the script, then enter the information in the Pop field giving the population and area statistics for the country. Once you have entered the information for the area and population of Mexico in the field and pressed Enter to confirm, the result will be displayed on the second line of the Description field.

**Choose the Browse tool from the Tools menu**


**Enter the information in the Pop field (for example area 50 and pop 5000)**

Make sure to put a return after each entry.

**Click outside the Pop field and result will appear in Description field**

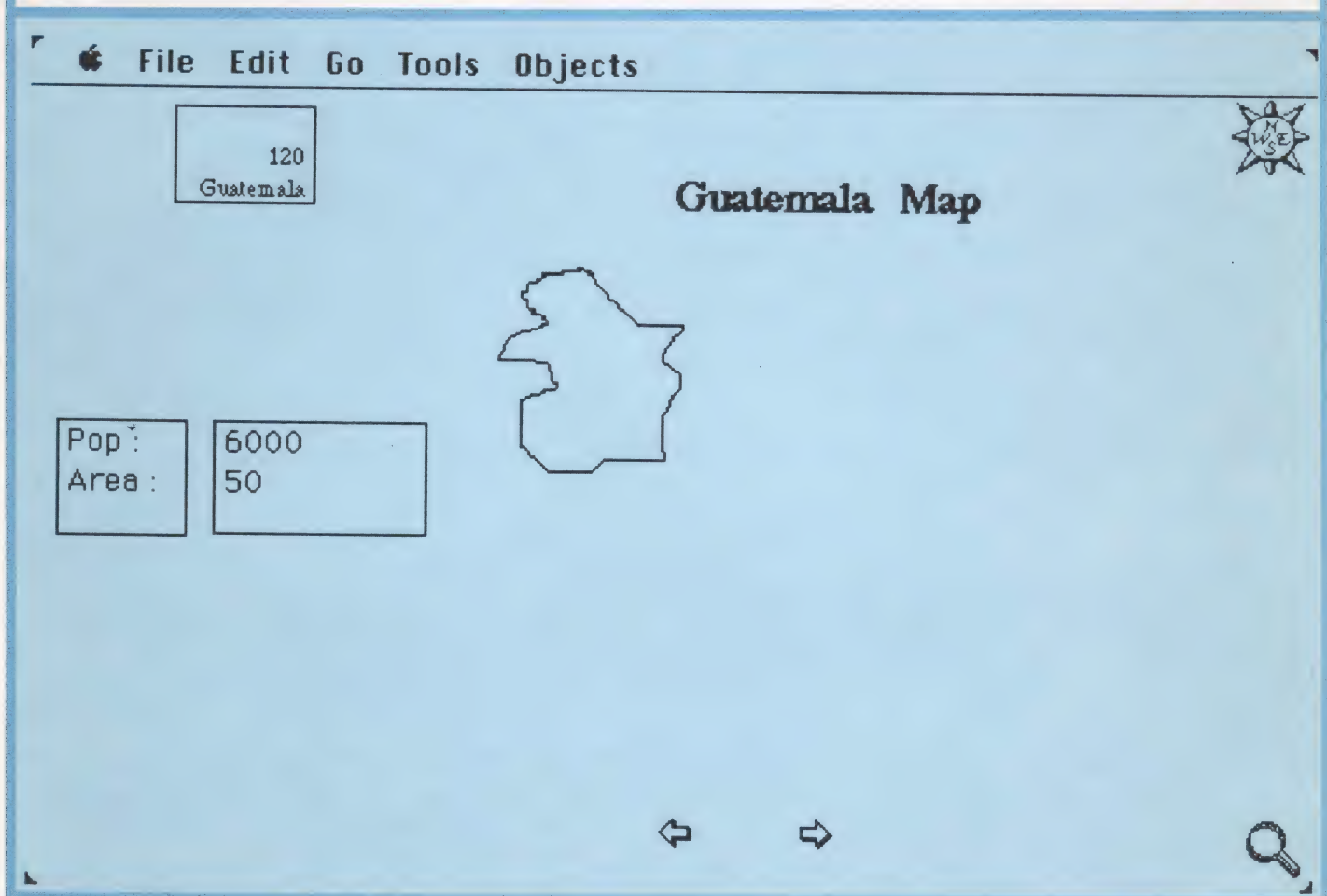




Now that you know the procedure, you can do the same for the Guatemala card. Copy the Text and Pop fields separately and paste them onto the other card. The physical properties and the script will be copied, but not the contents. As the labels in the field Text will be common to the two cards, select the text with the Text tool  and copy it in the same way.

- Select the Field tool from the **Tools** menu
- Copy the field Text and paste it on the second card
- Copy/Paste the field Pop
- Select the Browse tool from the **Tools** menu
- Click and drag to select the text (Text field)
- Copy/Paste the text to the Text field on the other card
- Enter the information 6000 and 50 in the Pop field to calculate the density of population on the second card

You may enter more realistic figures if you wish.





# HyperCard



Creating a Regional Tour  
Selecting Part of a Graphic  
Placing the State Picture on a Card  
Enlarging a Picture  
Creating and Naming the State Cards  
Navigation Buttons for the States  
The Return Button  
The Return Button Script





## 7. State Maps

### Creating a Regional Tour

## HyperCard

You've put together a tour around some of the countries bordering the United States and calculated the density of population on certain cards. To go deeper into the structure, you're going to put together a state-by-state tour inside the U.S.A. Later, you'll set up an intricate highway route to travel from city to city within a state. The cards for the areas will be linked to the exploded view card of the U.S.A.

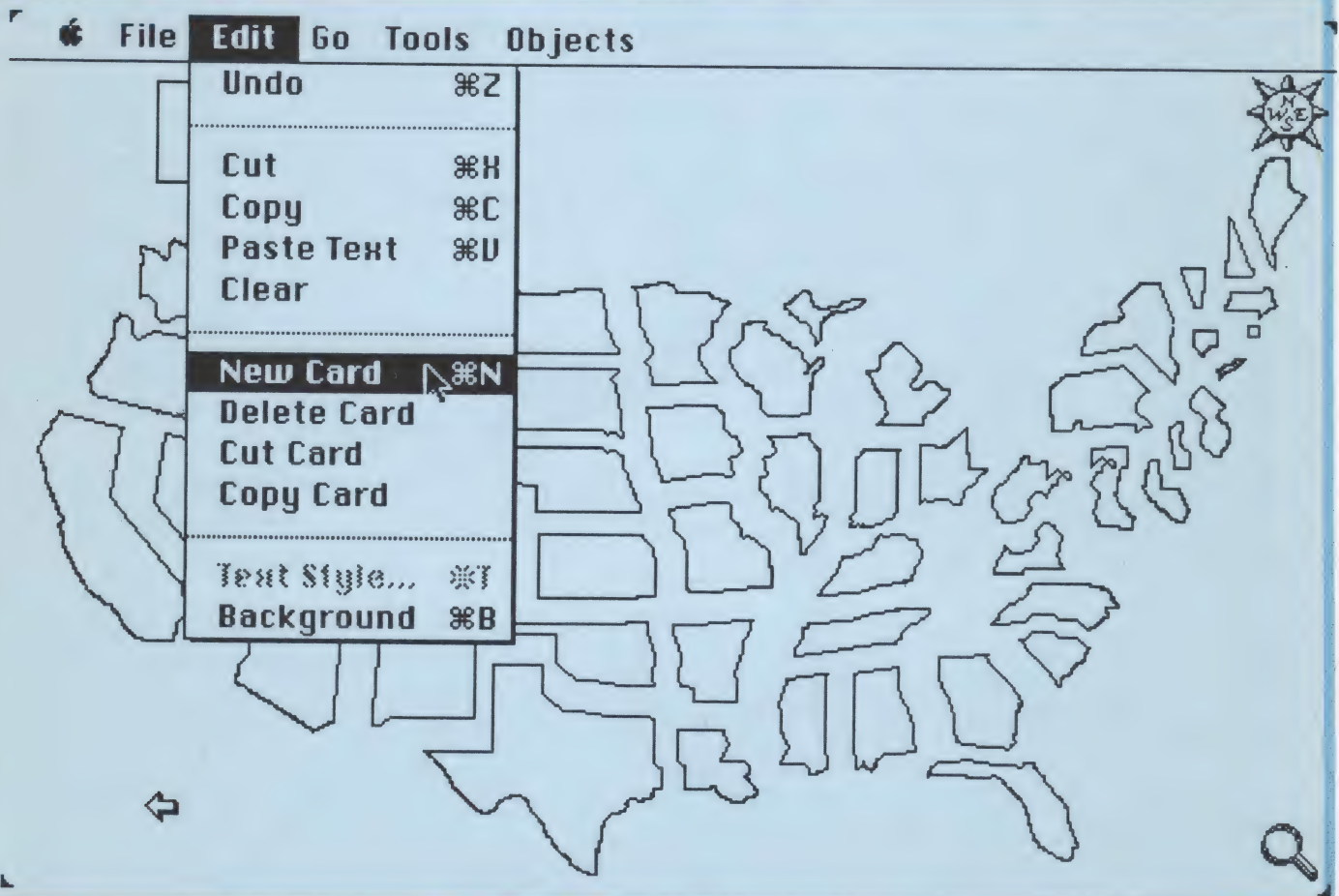
Using the same stack, you'll build a navigating route through cards representing several states.

Which background should you use? Why not the one you created for the countries, that would suit well. It already has a Description field to display the name of the state and can also be used for the name of the card.

To create a new card with the same background, go to the last card at the end of the stack (the exploded view of the U.S.A.) and add a card. The card will be inserted immediately after this one.

**Go to the last card in your stack**

**Choose **New Card** from the **Edit** menu (Command-N)**



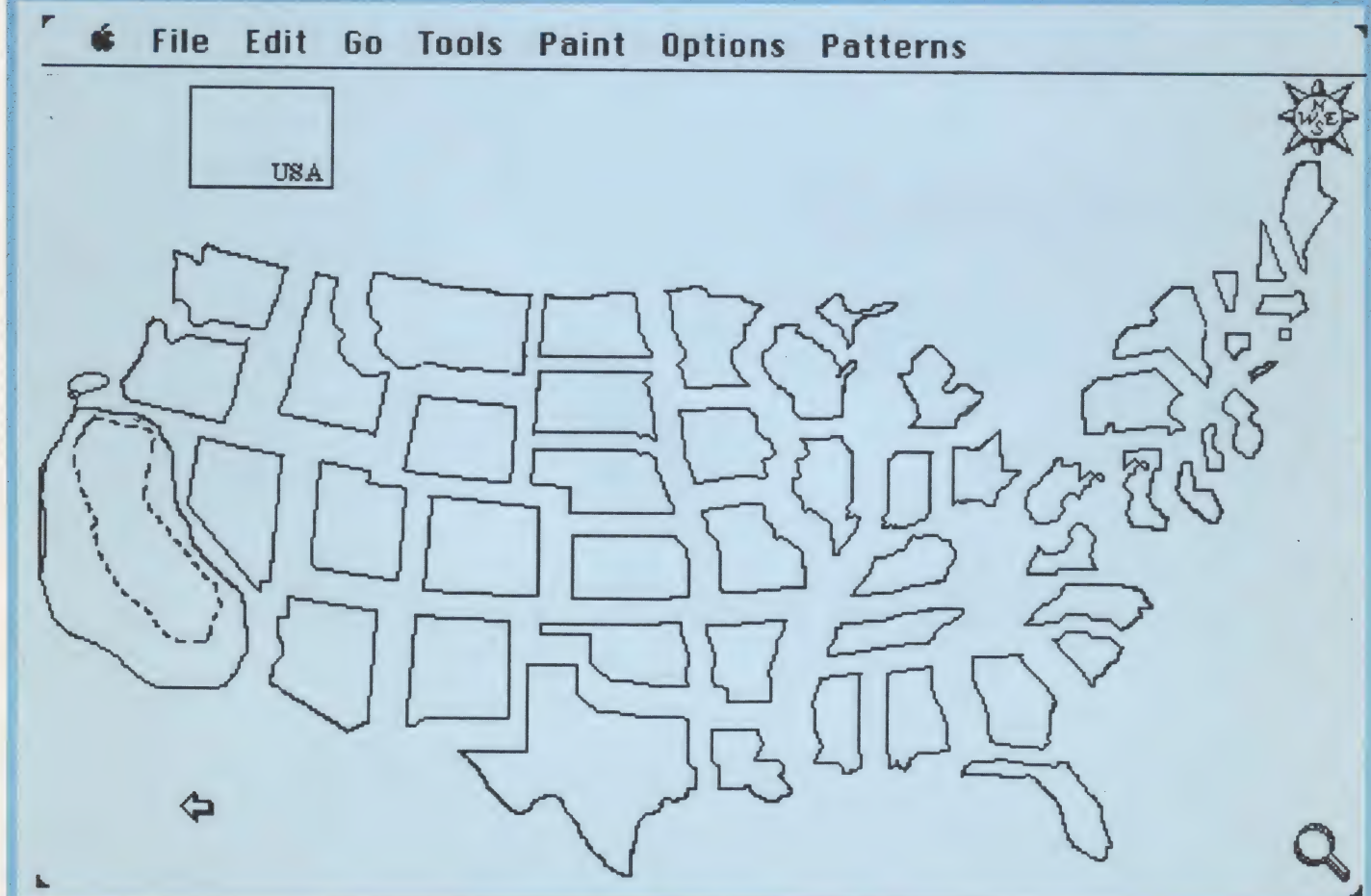


This navigation will take the user through some of the states; California, Texas, Minnesota, and Massachusetts (create the cards in that order). You have to put the Mac Paint drawing of the region you need to use onto this exploded view of the United States. All you need to do is use the Paint tools (Lasso) to select them and then Copy/Paste them onto the cards. The Lasso hugs the part of the picture it surrounds and lets you easily select non-rectangular areas.

**Go back to the map of the U.S.**

**Select the Lasso from the Tools menu**

**Drag round the state of California to select it**





## 7. State Maps

### Placing the State Picture on a Card

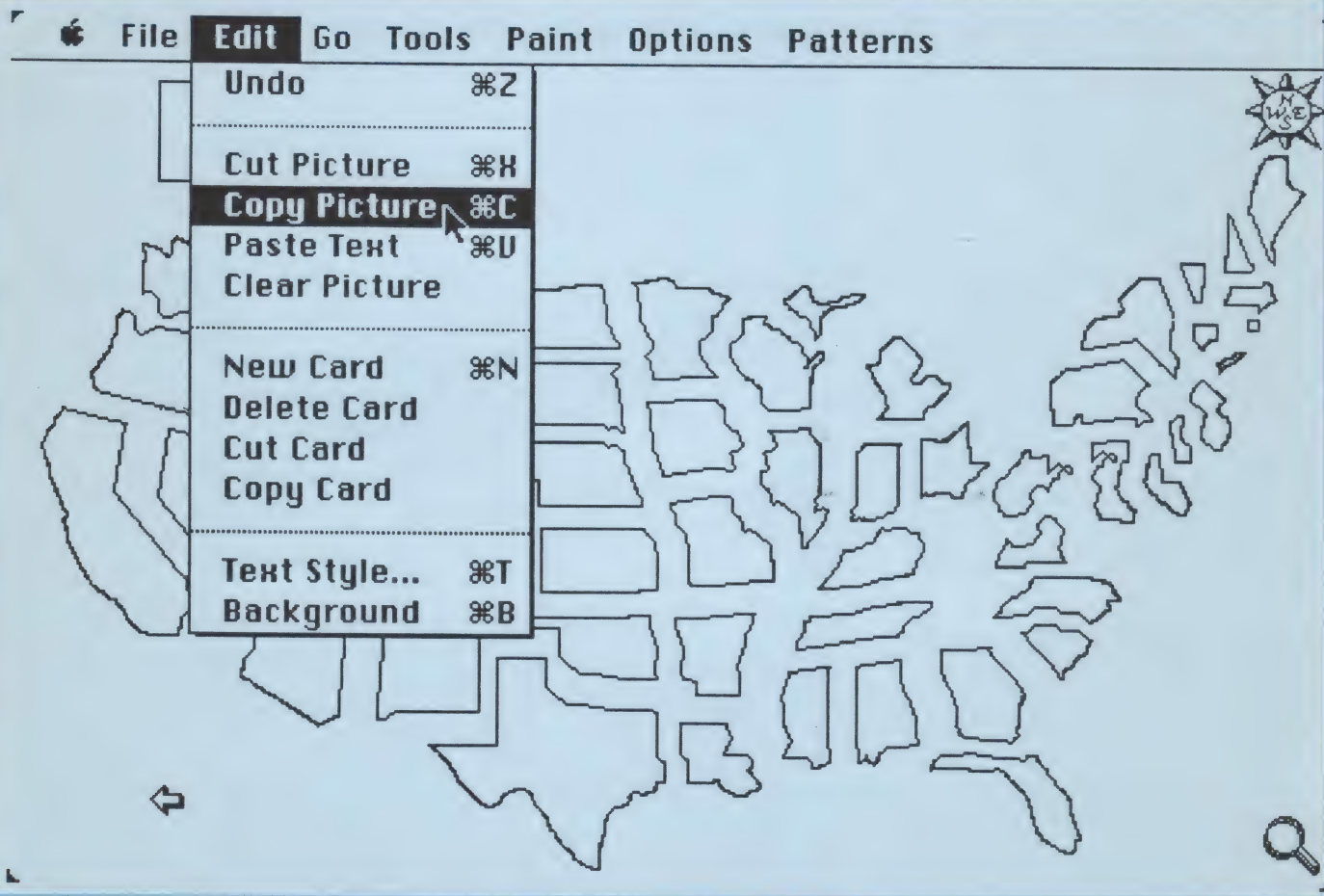
## HyperCard

You'll notice again how the commands in the menus change according to which tool you're using - when you are in Paint mode, the Copy/Paste Picture commands are active.

**Choose Copy Picture from the Edit menu (Command-C)**

**Go to the new card at the end of the stack**

**Choose Paste Picture from the Edit menu (Command-V)**



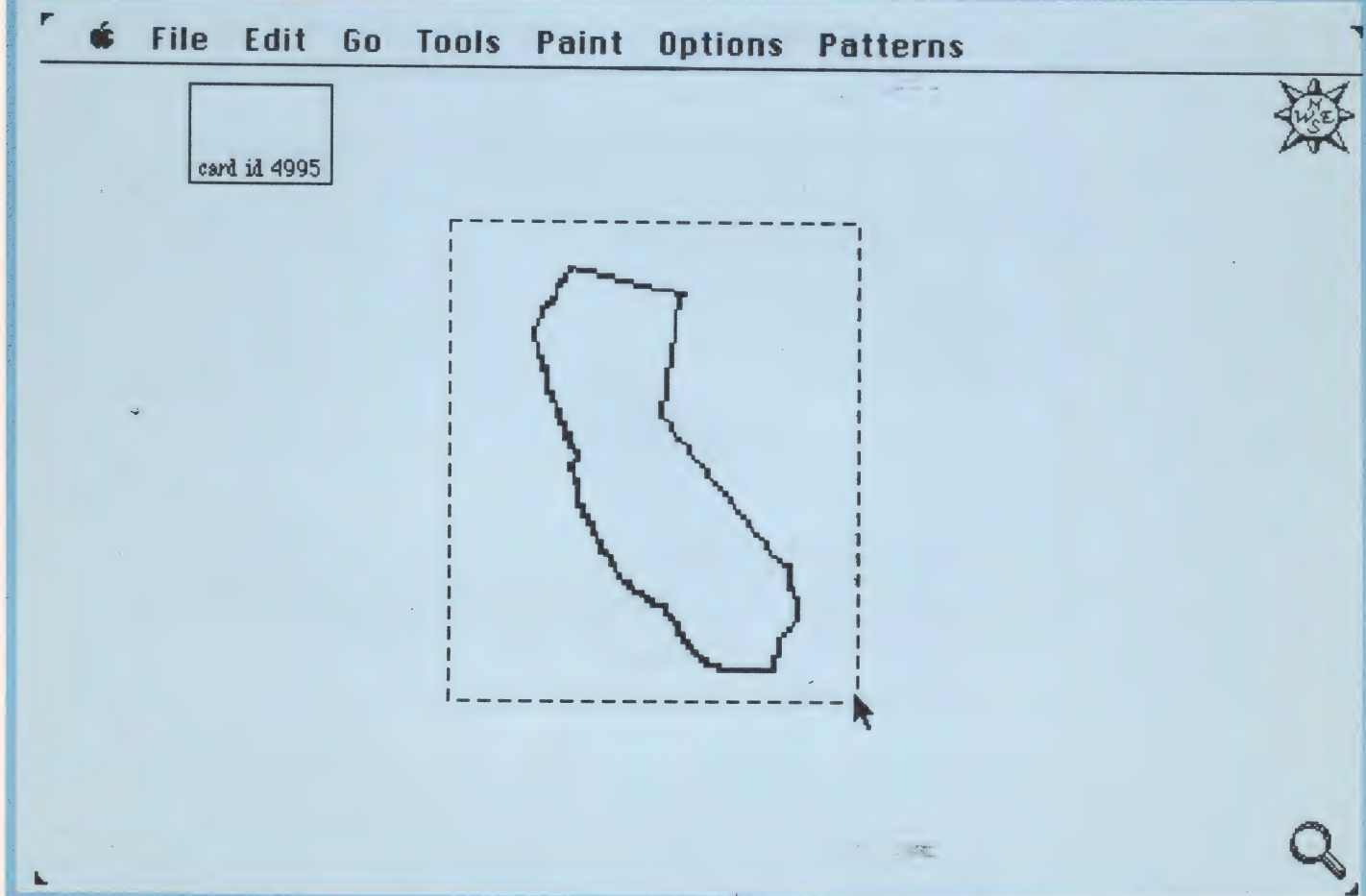


You can stretch or shrink a graphic with the **Selection** tool. **You could** take the time here to experiment with the various ways you can change a graphic and the different uses of the **Paint** tools. Don't worry if you make a mistake, the picture is still held in the **Clipboard** for you to paste again.

**Choose the Selection tool from the Tools menu**  
**Drag round the picture to select it**

You can use just the **Command** key to stretch a graphic, but the result will be distorted. **Command** and **Shift** lets you stretch a graphic keeping its original proportions.

**Hold down the Command and Shift keys**  
**Click any corner of the graphic and drag to the size desired**  
**Experiment with the Paint tools to make a picture to your liking**





## 7. State Maps

### Creating and Naming the State Cards

## HyperCard

The Description field on this card displays the ID number of the card. When you name the card, the name will be displayed as it was copied from a previous field, along with the script. Give this card the name "California". Then create three more state cards and name them: Minnesota, Massachusetts and Texas.

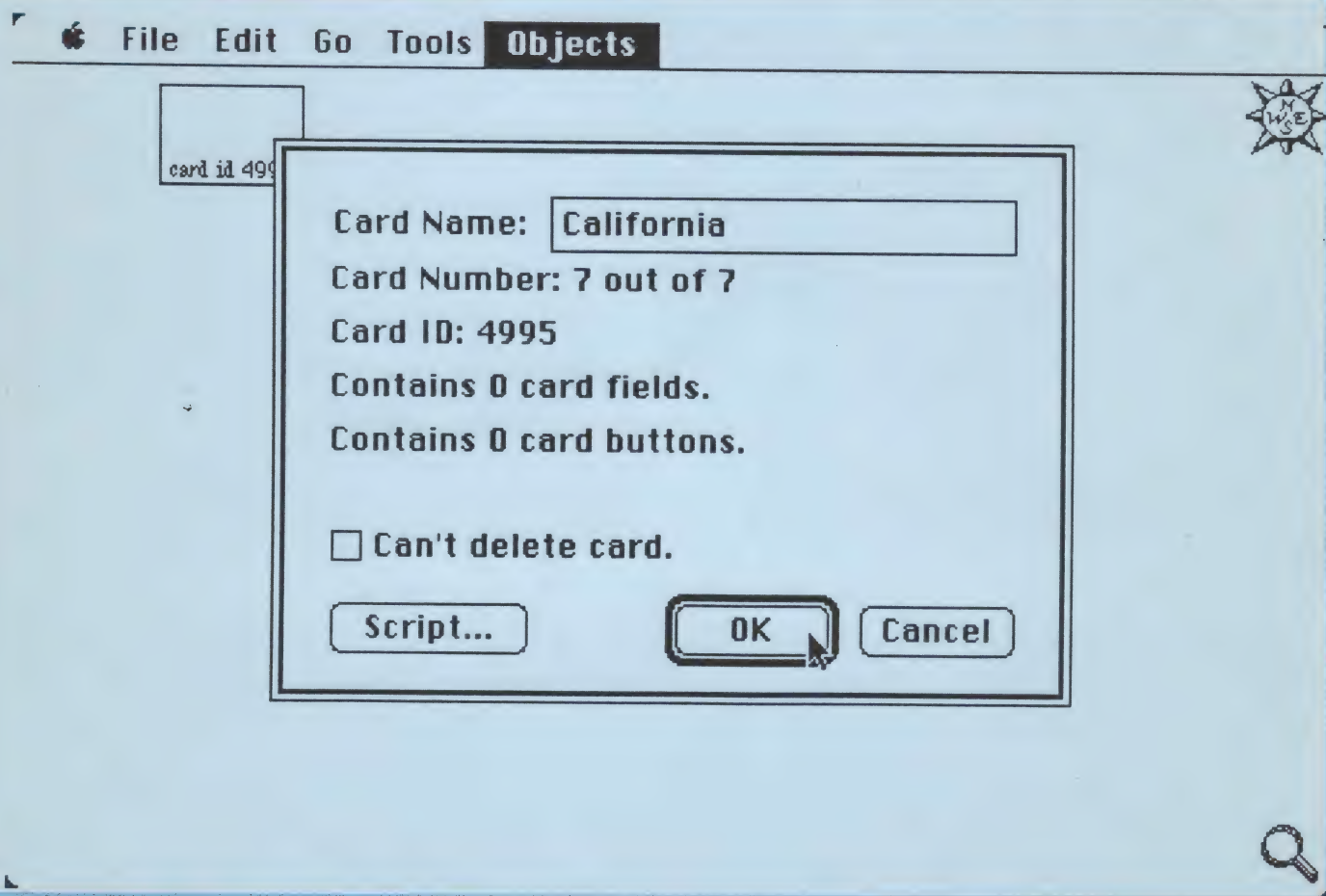
**Select the Browse tool**

**Choose Card Info... from the Objects menu**

**Type the name of the card (California)**

**Click OK to confirm**

**Follow the 4 preceding pages (pages 88 to 91) to create and name the other 3 cards**  
(Minnesota, Massachusetts and Texas)





The state cards are created. You need to be able to navigate through them from the main USA card. Create transparent navigation buttons about the size of the states they represent. The script will read go to "state". Using Copy/Paste to create the other buttons, all you'll have to do is change the size of each one and the name of the state in the script.

**Go back to the USA card**

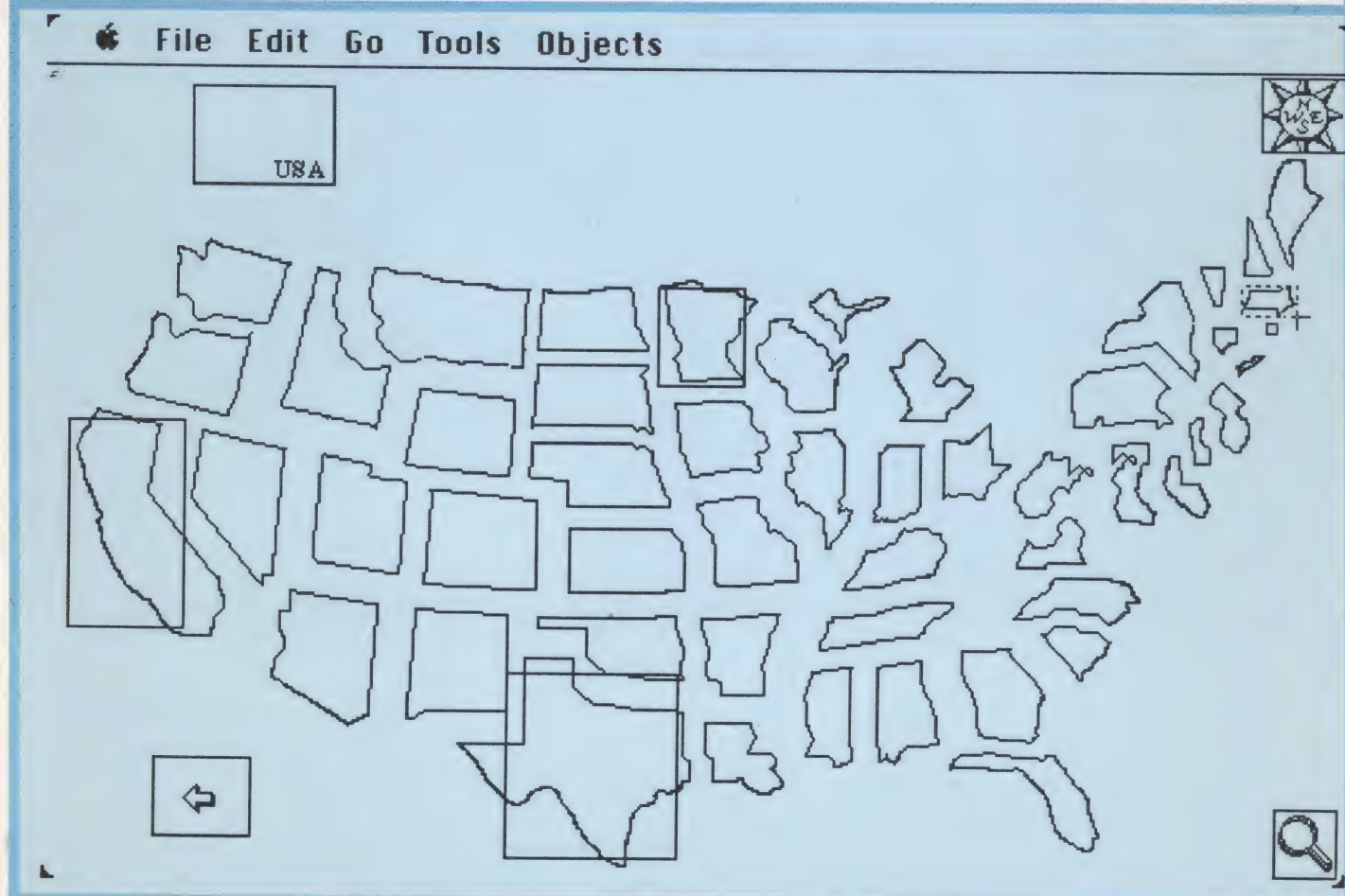
**Select the Button tool from the Tools menu**

**Command, click and drag to create a transparent button over the state of California (as below)**

**(or choose New Button from the Objects menu and select the options)**

**Type the script: go to card "California"**

**Repeat the operations above for Minnesota, Massachusetts and Texas**





## 7. State Maps

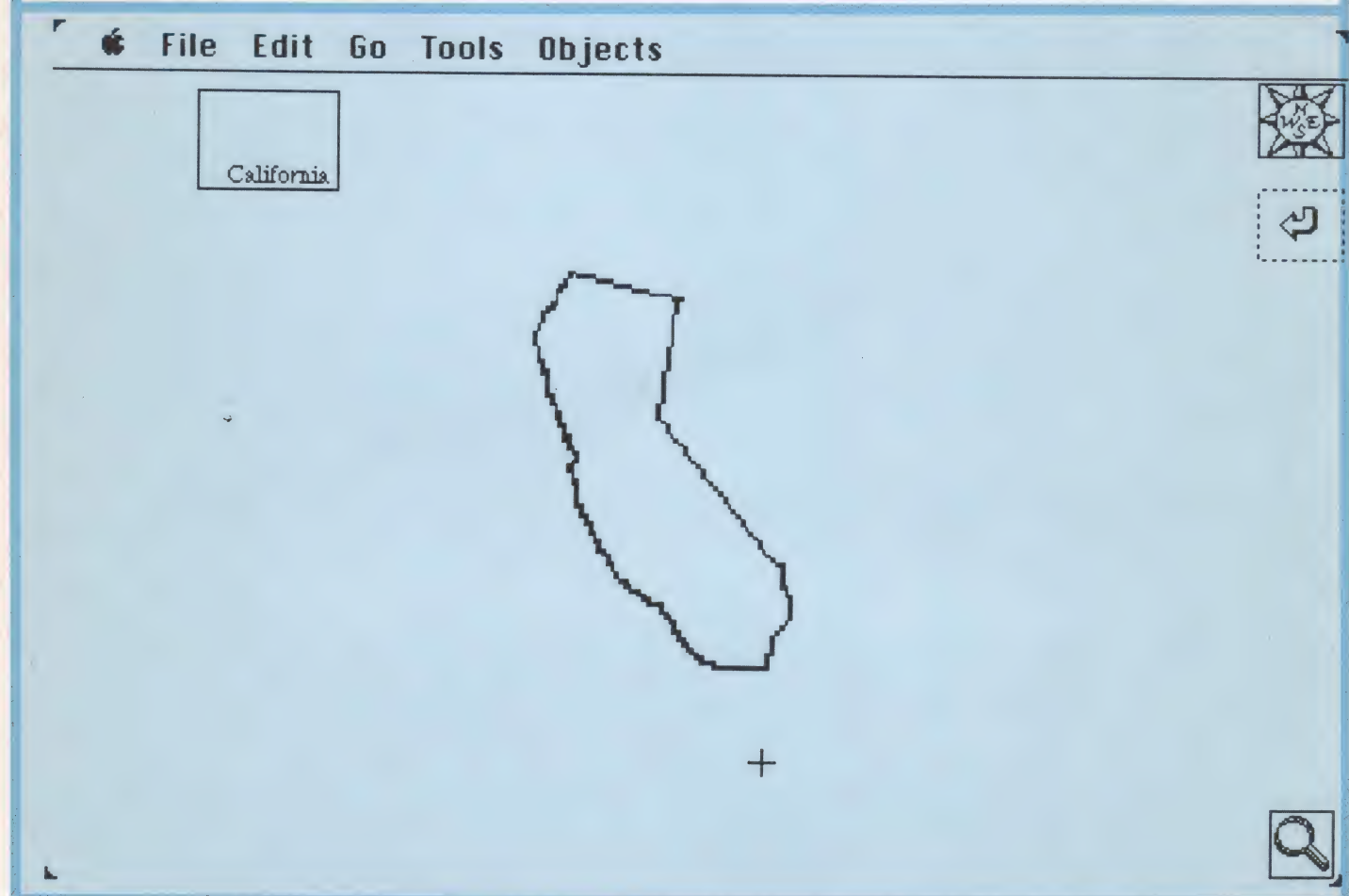
### The Return Button

## HyperCard

You can get to each state from the main U.S.A. card. You also need to get back to the main card from each state, so you need a Return button on the state cards. Should you put this button on the cards or on the background? The cards share the same background as the neighboring country cards you created earlier. Since those cards don't need a Return button to the main U.S.A. map card, copy the buttons directly onto the state cards.

Make it a transparent button with a hidden name and give it a Return arrow icon representing the return to the starting point.

- Select the Button tool from the **Tools** menu
- Command, click and drag to create a transparent button
- Double-click the button to specify the button characteristics
- Click **Icon...**
- Select the small Return arrow
- Position the button as shown below





For the user, this button will have the same aspect as a background button, but for the moment, it only figures on the card it was created on. You need to copy it to the other three.

Now write the button script: go to card "USA" and copy the button.

**Shift, double-click on the button to see the Script box**

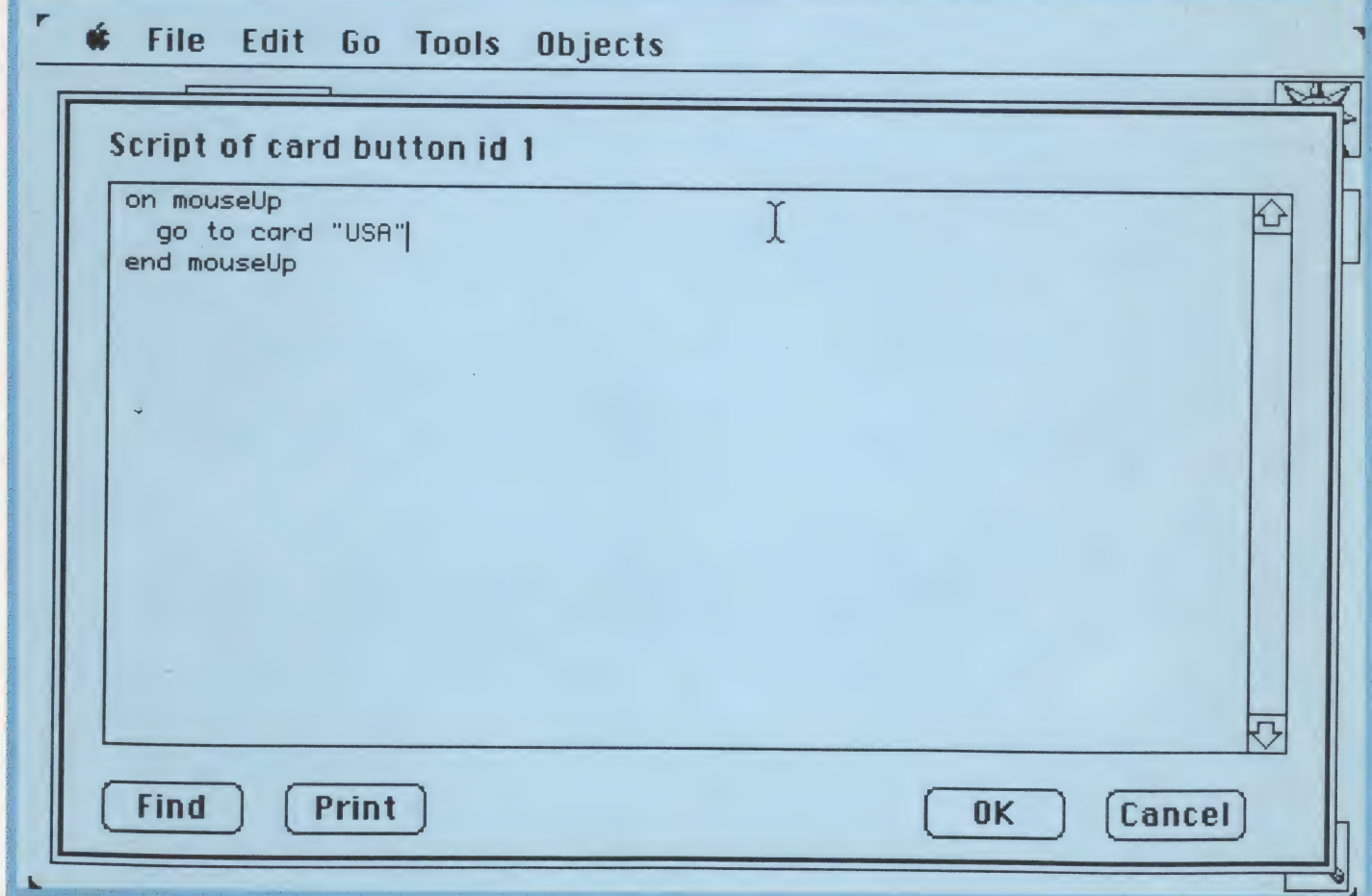
**Type the script: go to card "USA"**

**Click OK**

**Copy/Paste the button to the other 3 cards**

**Select the Browse tool from the Tools menu**

**Test the new buttons**

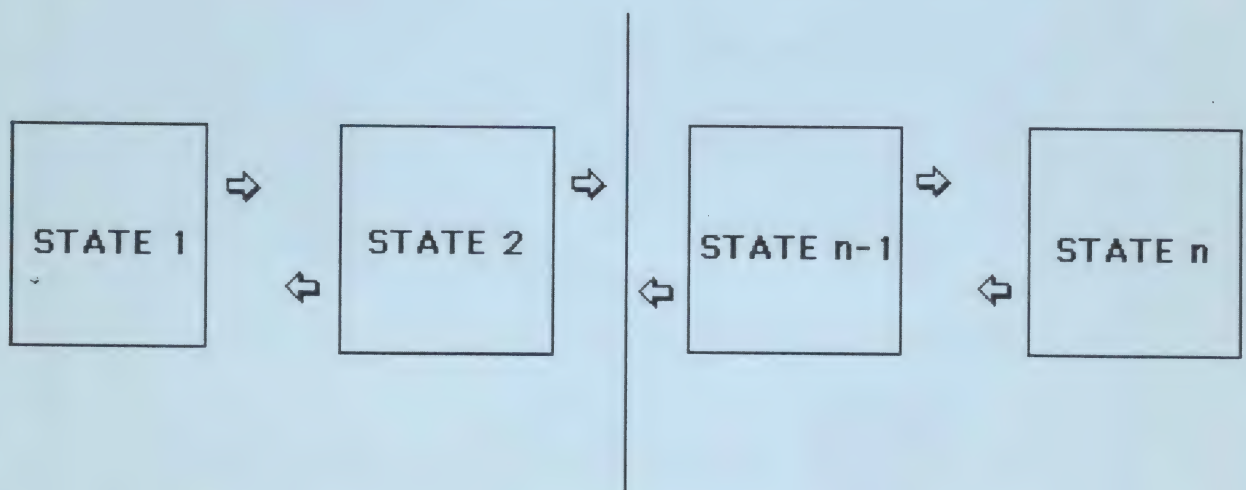




# HyperCard



A Next State Button  
Completing the Tour  
The First and Last States





## 8. A Guided Tour

### A Next State Button

## HyperCard

To build your guided tour around the states, you need navigating buttons on the state cards and on the USA card.

Right and left pointing arrow icons will serve as buttons for navigating from state to state. As an example, we only have 4 states in this stack, but you could do the same adding all the remaining states.

Create a Down button on the USA card which will take you to California, the first of the four states we are going to visit.

**Go to the USA card**

**Create a transparent button (don't bother to name it)**

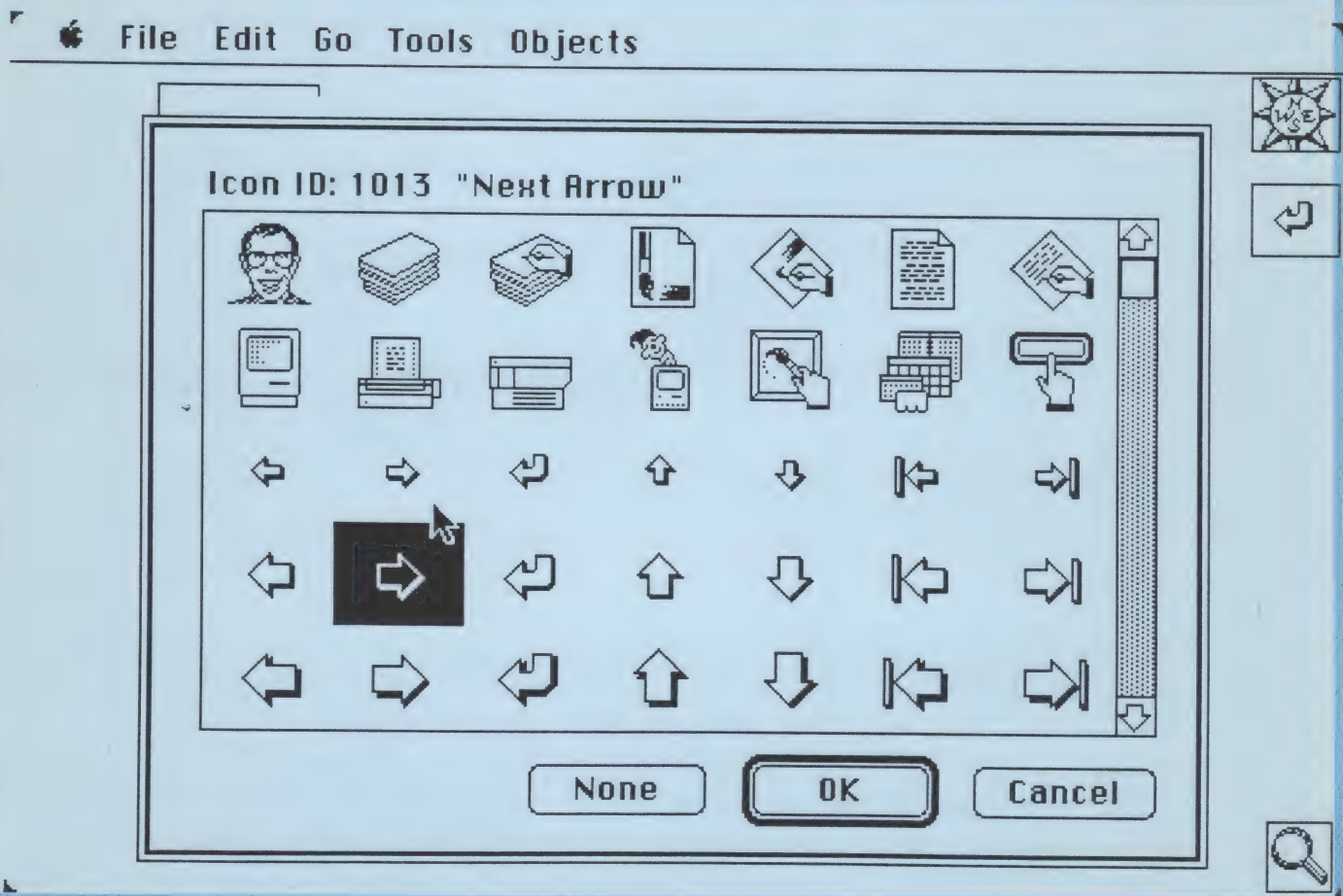
**Give it a down-pointing arrow icon**

**Position the button at the bottom right of the screen**

The button script will be go to "California" (it will therefore take you straight there from the USA card).

**Open the button Script box**

**Type the script: go to card "California"**

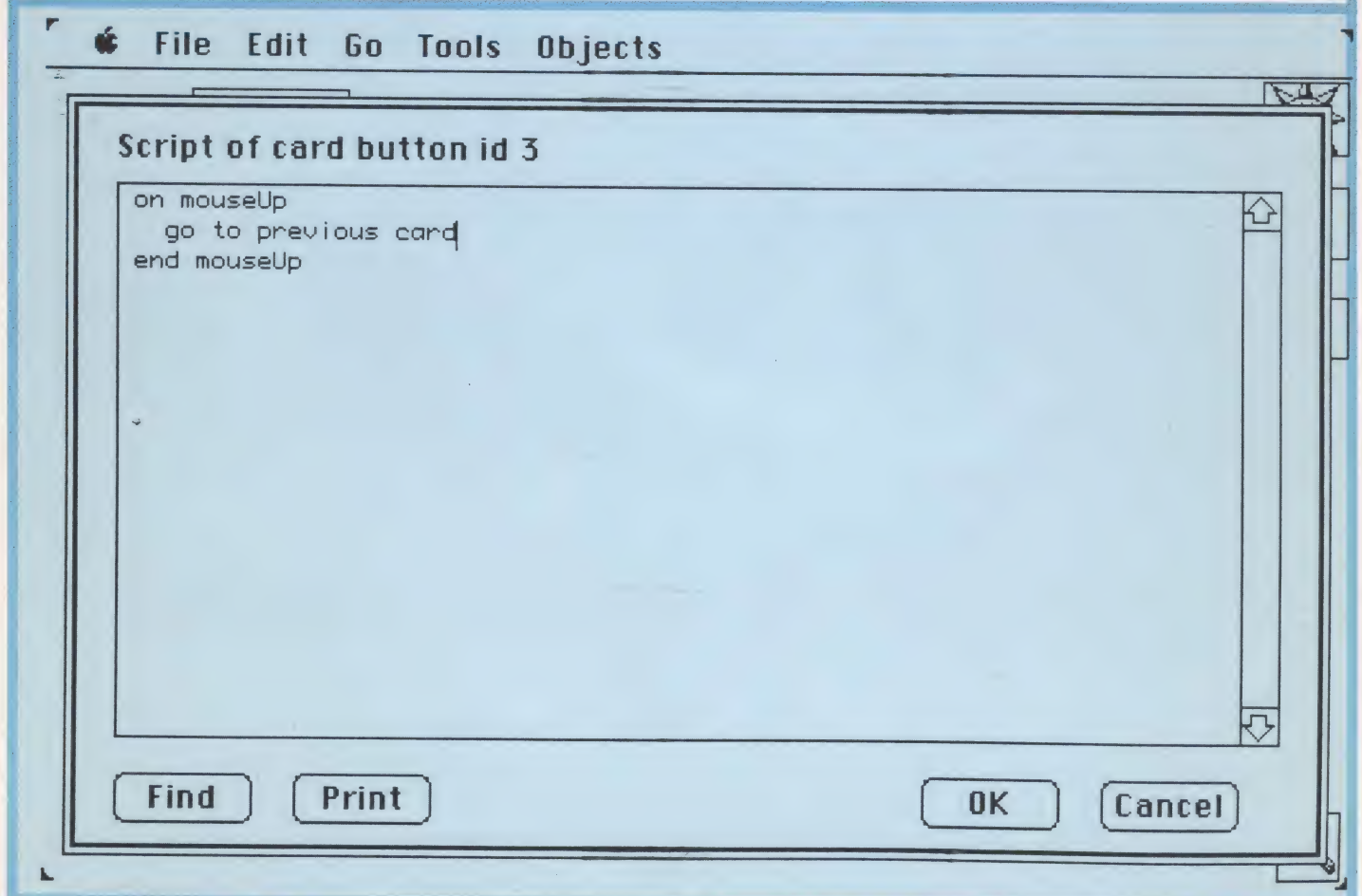




To complete the tour, copy these two new buttons onto the four state cards. To go from state to state, you'll need to write "go to next card" and "go to previous card" scripts. This way you won't have to change the script for each card.

A script like this only works when you're sure of the order in which the cards are arranged. The navigating sequence would be altered if the cards were sorted, for example, changing the order of the sequence.

**Copy/Paste the Down button on the California card**  
**Change the Down button script to: go to next card**  
**Change the Down icon into a right arrow icon**





## 8. A Guided Tour

### The First and Last States

## HyperCard

The first and the last state cards only need one of these navigation buttons: the California card a right button, and the Texas card, a left one. After doing the complete tour, the user can use the Return button to go back to the starting point (the USA card).

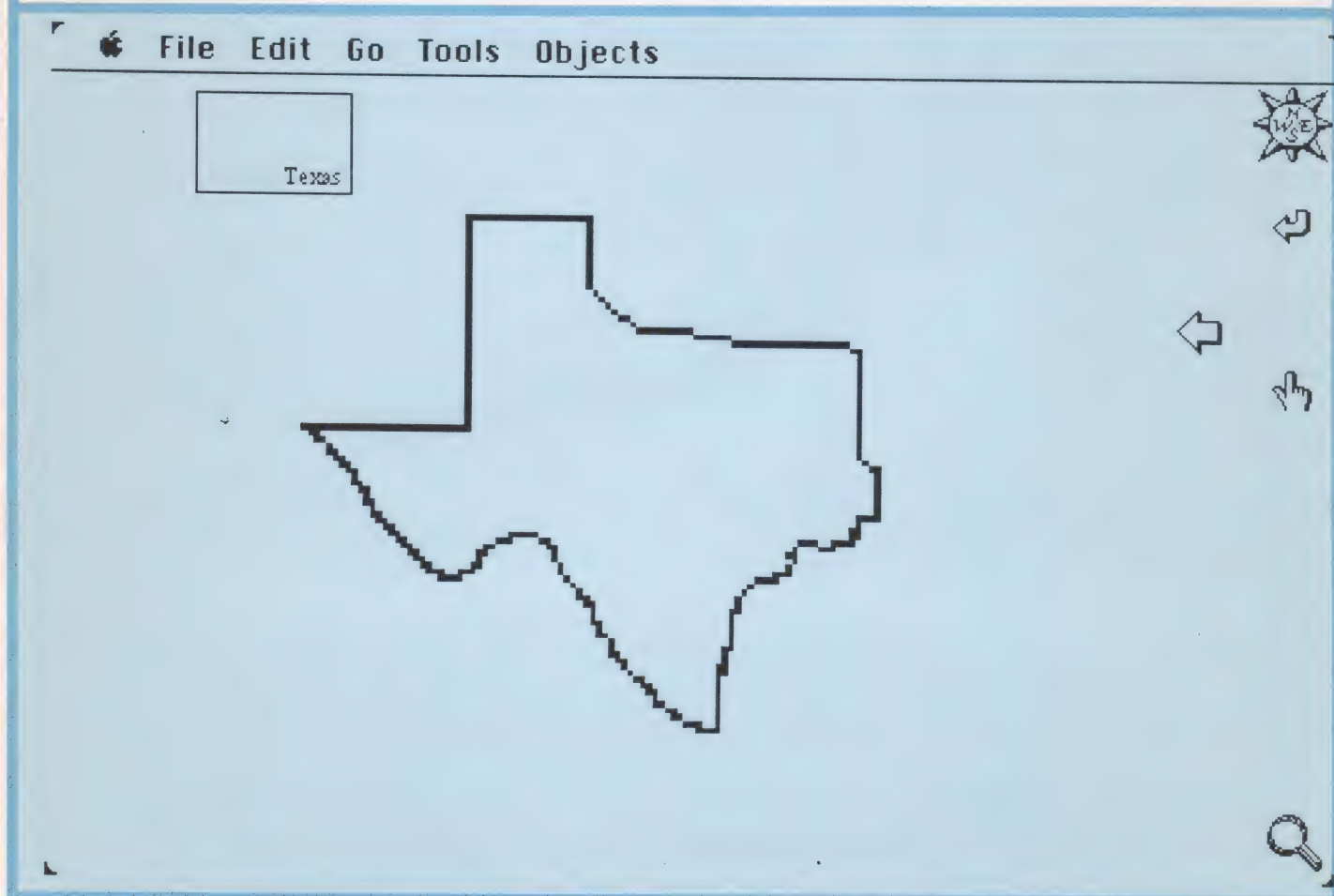
**Copy/Paste the right-arrow button on Minnesota and Massachusetts**

**Create a left-arrow button and position it to the left of the right-arrow button on Massachusetts card**

**Copy/Paste the left arrow button on Texas and Minnesota**

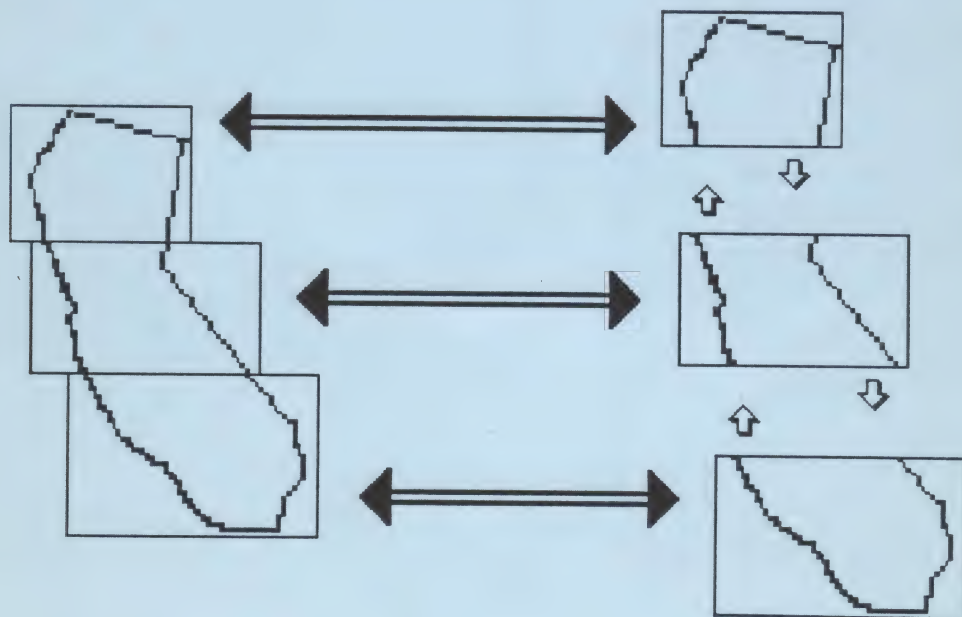
**Choose the Browse tool from the **Tools** menu**

**Test the guided tour**





Choosing a Third Background  
Creating the Third Background  
Creating the Los Angeles Card  
Importing the Map of Los Angeles  
Two More County Cards  
The County Navigating Buttons  
The County Button Scripts  
Previous and Next  
The First and Last Cards





## 9. Navigating Between Counties

### Choosing a Third Background

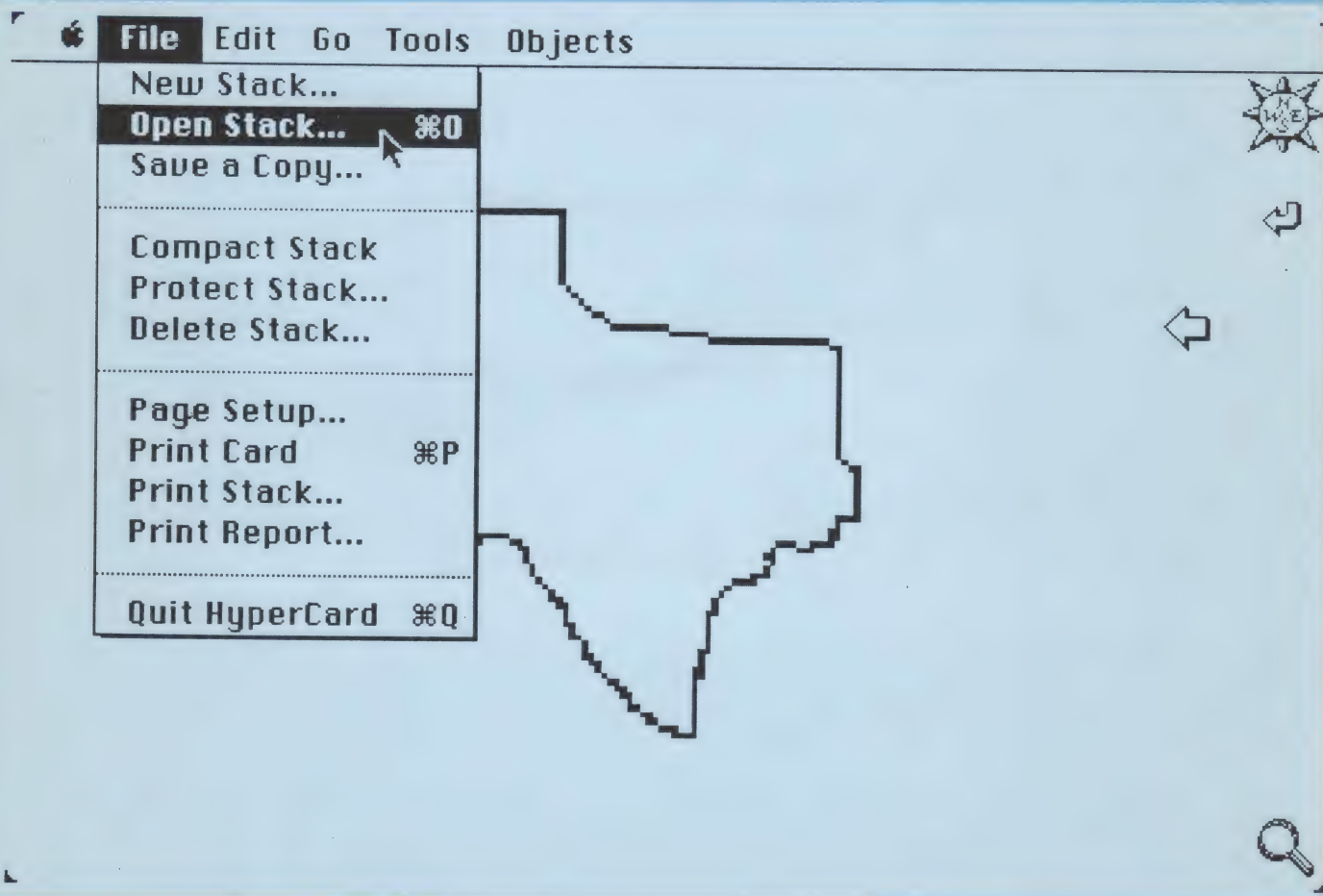
## HyperCard

The tour by region through the US is completed. To complete the guided tour you are building in your stack, you're going to visit several counties in one state, and then progress on highways from one city to another. You can begin to build the county map cards for the state of California. For the purpose of this exercise, we are going to divide California into three regions, represented by three county cards.

Which background would be suitable for the county cards? The existing background of the country cards or the background of the state cards may do. However, to build the highway network between cities, you'll create background fields and buttons that will not exist on the other cards in the stack. You're therefore going to create a third background in your stack, with the same basic objects as the other two.

To do this, you can copy the background of the Sample stack again, thus creating a third new background in your Pracstack stack. The new county cards will be separate from the rest of the cards in the stack.

- Make sure you are in Browse mode
- Choose Open Stack... from the File menu
- Double-click the stack Sample





# HyperCard

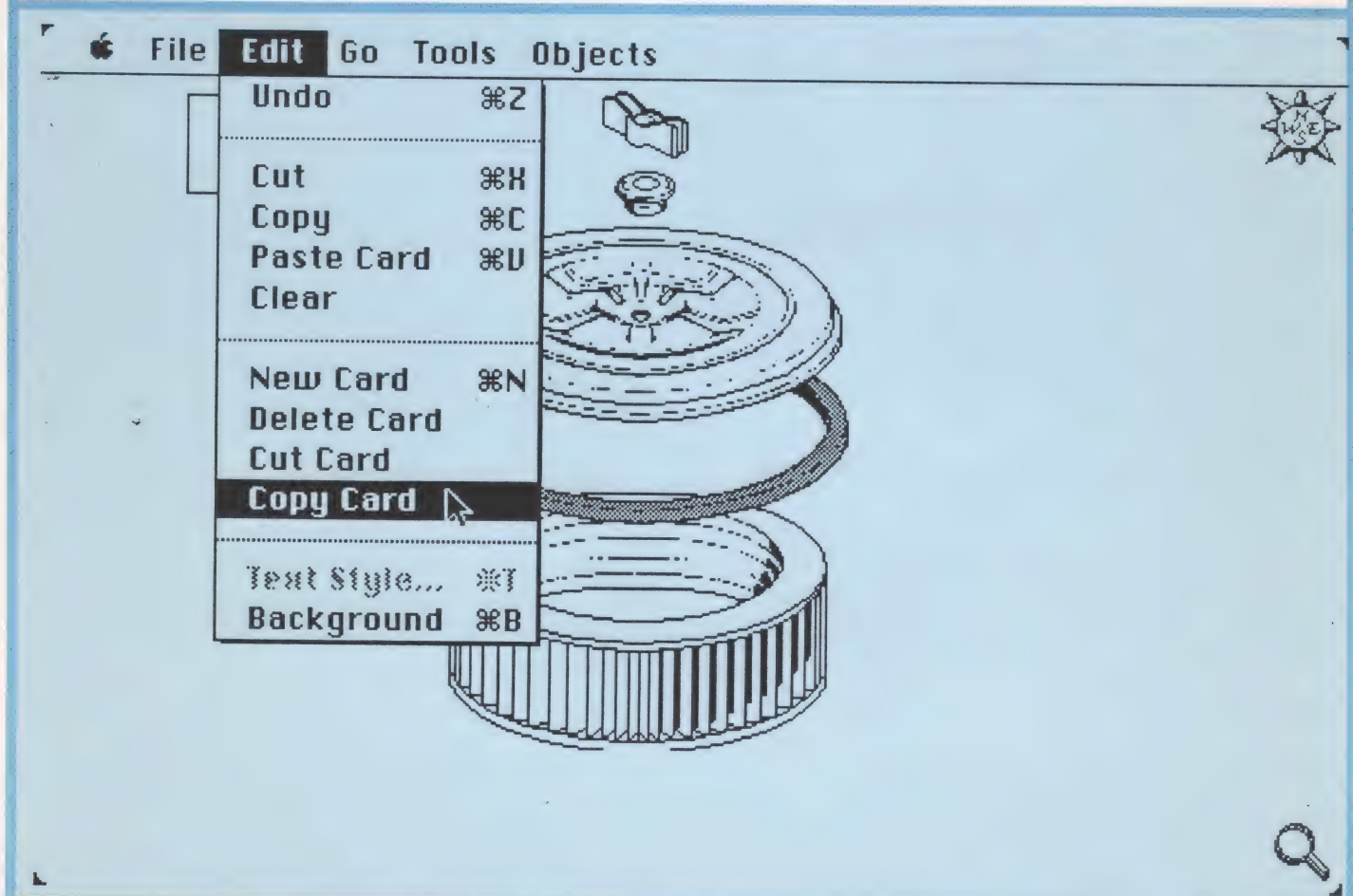
## 9. Navigating Between Counties

### Creating the Third Background

The background of this card in the Sample stack will be transferred with all its objects to your stack "Pracstack."

Click the magnifying glass icon to hide the scrolling field

Choose **Copy card** from the **Edit** menu





## 9. Navigating Between Counties

### Creating the Los Angeles Card

## HyperCard

Use the Recent feature to go back to the last card on your Pracstack stack, paste the contents of the card, then erase the picture you don't need.

**Choose Recent from the Go menu**

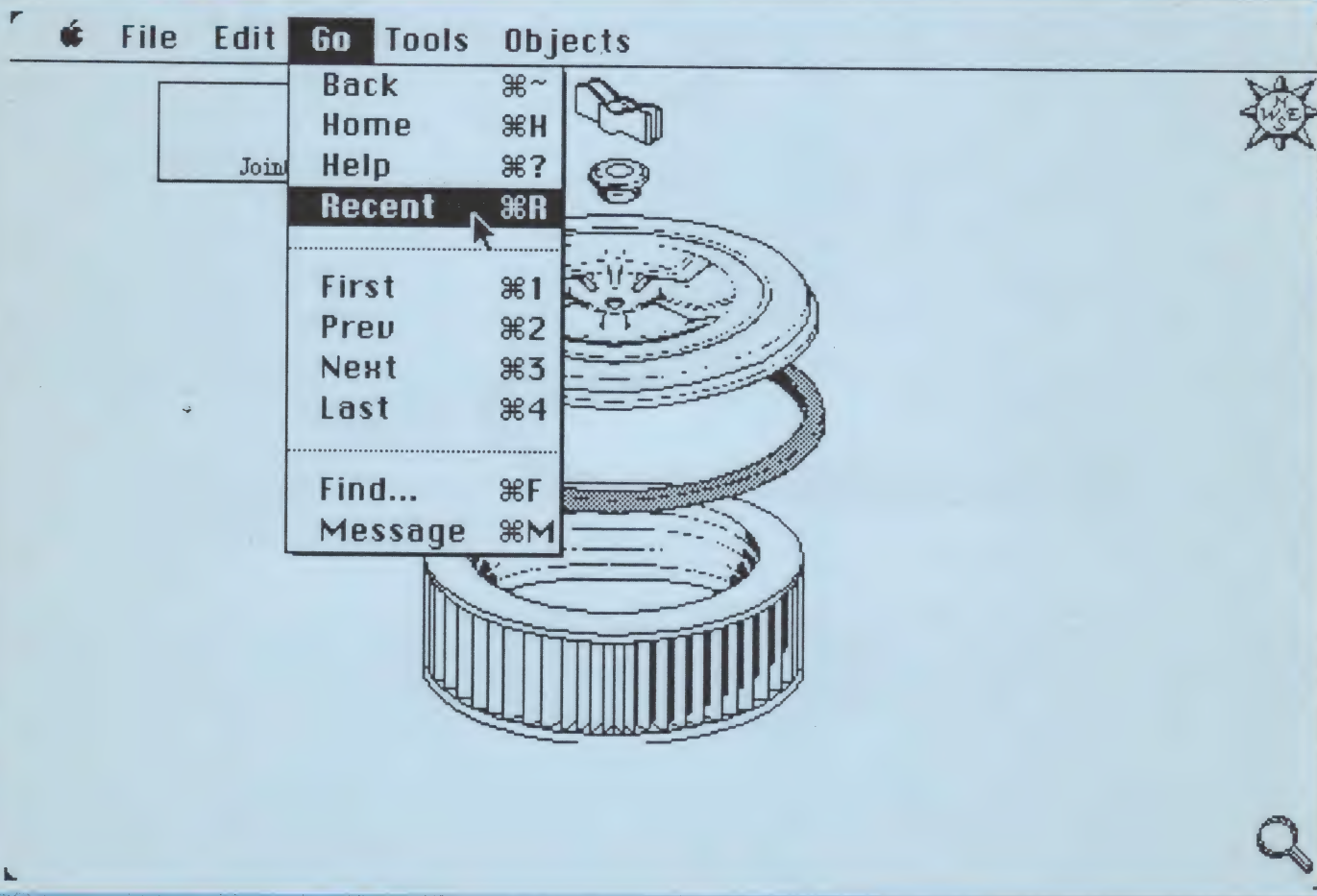
**Click one of the Pracstack cards**

**Go to the last card in the stack**

**Choose Paste Card from the Edit menu**

**Erase the picture**

Note : to erase a picture, choose any paint tool, then **Select all** from the **Paint** menu, then press Backspace key on keyboard.





# HyperCard

## 9. Navigating Between Counties Importing the Map of Los Angeles

Use the Import Paint command from the File menu to import the MacPaint maps of the counties from disk, or draw your own with the Paint tools.

You'll use the Paint tools to size and position the pictures how you want them. The opaque background should be changed to transparent to bring forward the HyperCard objects (fields and buttons.) Name this card "LA".

**Choose a Paint tool**

**Choose Import Paint... from the File menu**

**Double-click the Paint Directory**

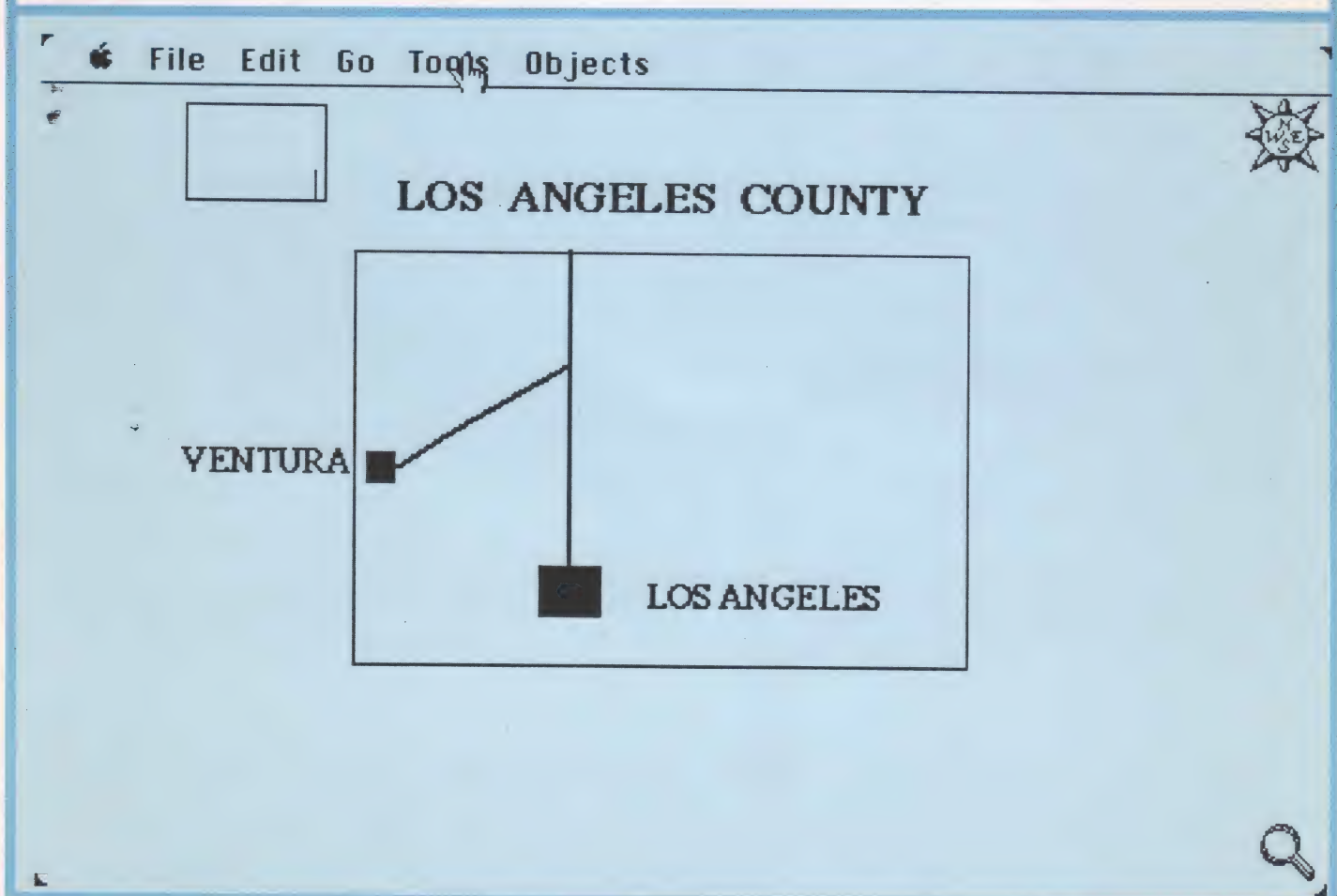
**Double clic LOS ANGELES CO.**

**Choose Select All command from Paint menu**

**Choose Transparent command from Paint menu**

**Go into Browse mode and delete text in top left field**

**Name the card L.A.**





## 9. Navigating Between Counties

### Two More County Cards

## HyperCard

You need two new cards for Santa Clara County and San Francisco county. (Name them by their initials). Use the background of the newly created L.A. card, import the maps, and set up the cards.

For the two new cards Santa Clara and San Francisco:

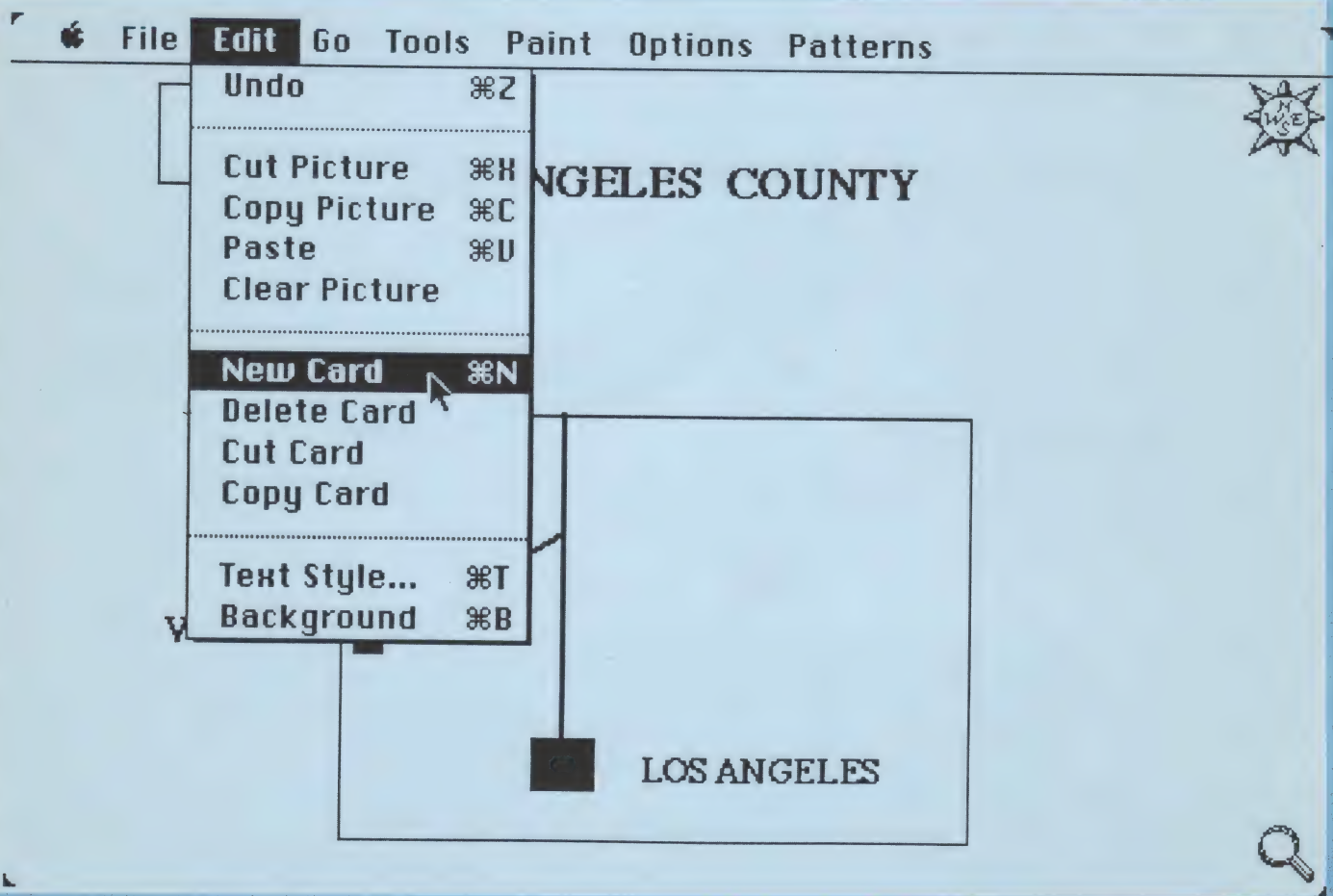
Choose **New Card** from the **Edit** menu

Repeat the previous procedure to import the maps, double clicking

SANTA CLARA CO. and SAN FRANCISCO CO. instead of the PAINT directory and LOS ANGELES CO.

Go into Browse mode but omit text deletion step

Name cards S.C. and S.F. respectively





You've now split California into three regions represented by the three county cards you just created. Now you're going to build the navigating buttons to link them. This is a similar system to the one you set up for the countries and the states.

First go back to the card named California, then create transparent buttons the size of the counties they will link. The buttons will be placed on the California map covering the county they represent.

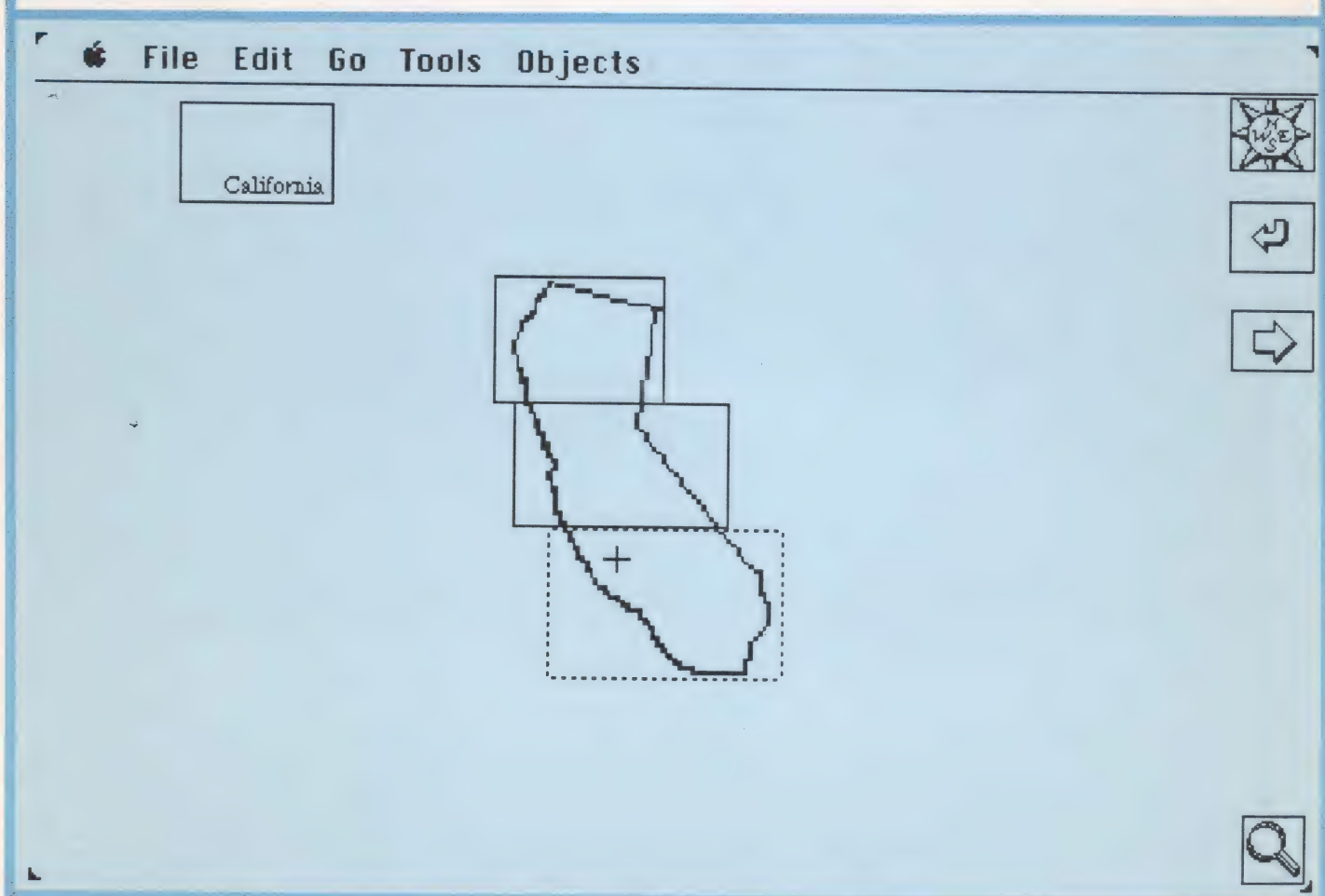
**Go to the card California**

**Choose the Browse from the Tools menu**

**Create a transparent button**

**Position it on the county S.F.**

**Repeat the procedure for the SC and LA buttons**





## 9. Navigating Between Counties

### The County Button Scripts

## HyperCard

You know what to do next! Write the script for each button (go to card "name of county").

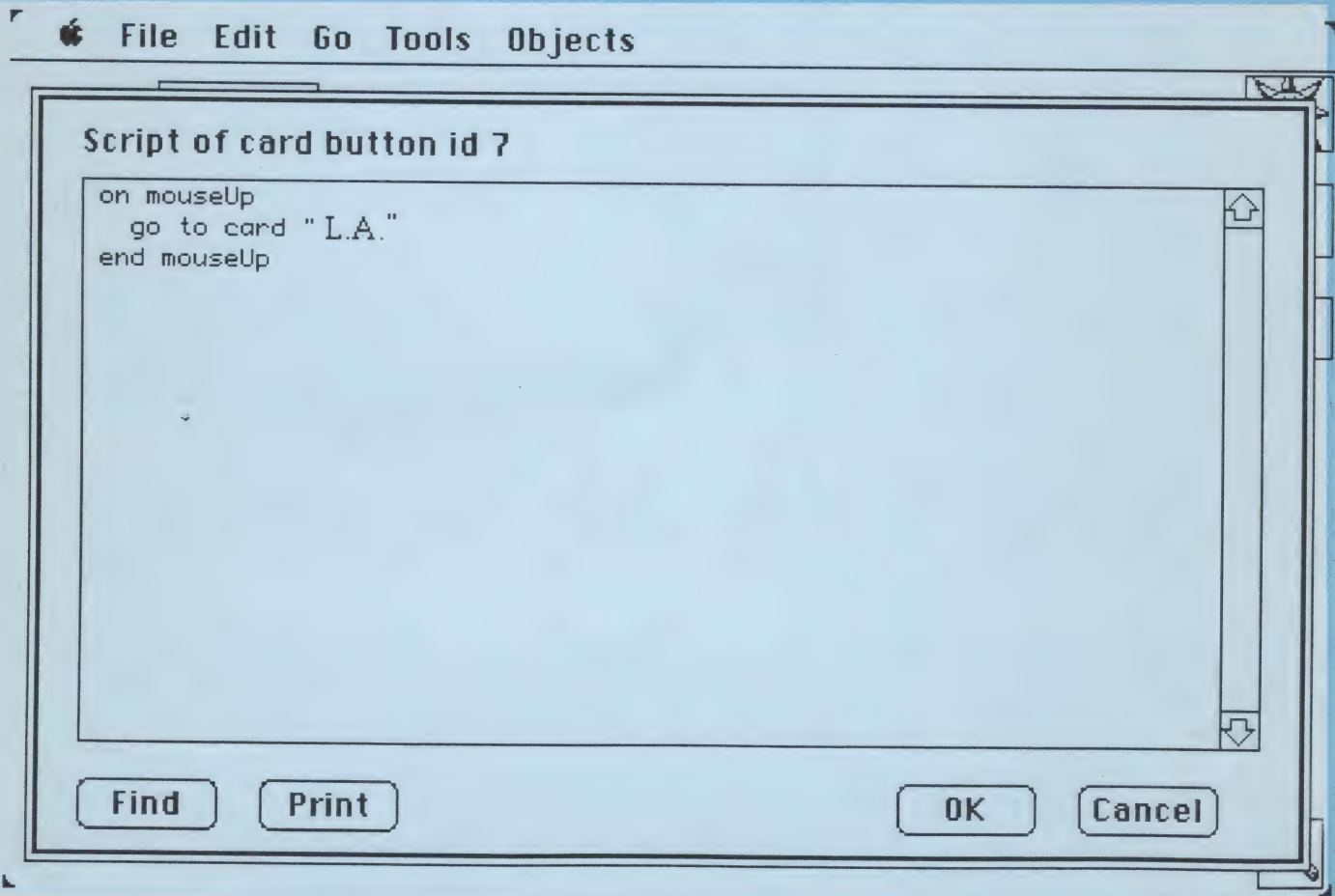
When you've done this, test the buttons without forgetting to choose Browse mode.

**Shift, double-click the L.A. button to write its script**

**Type the script: go to card "L.A." and click OK**

**Repeat the procedure for the other two buttons  
(adapting the destination name)**

**Choose Browse mode to test the buttons**





Now you can get to any of the counties from the California card, but you still need Previous and Next card buttons to navigate around the state. Create these buttons, like you did before, using left and right pointing arrow icons on transparent buttons.

Go to the card S.F.

Create a transparent button and position it to the right of the screen

Select the down-pointing arrow icon

Click OK

Open the Button Script box

Type the script : go to next card

Click OK

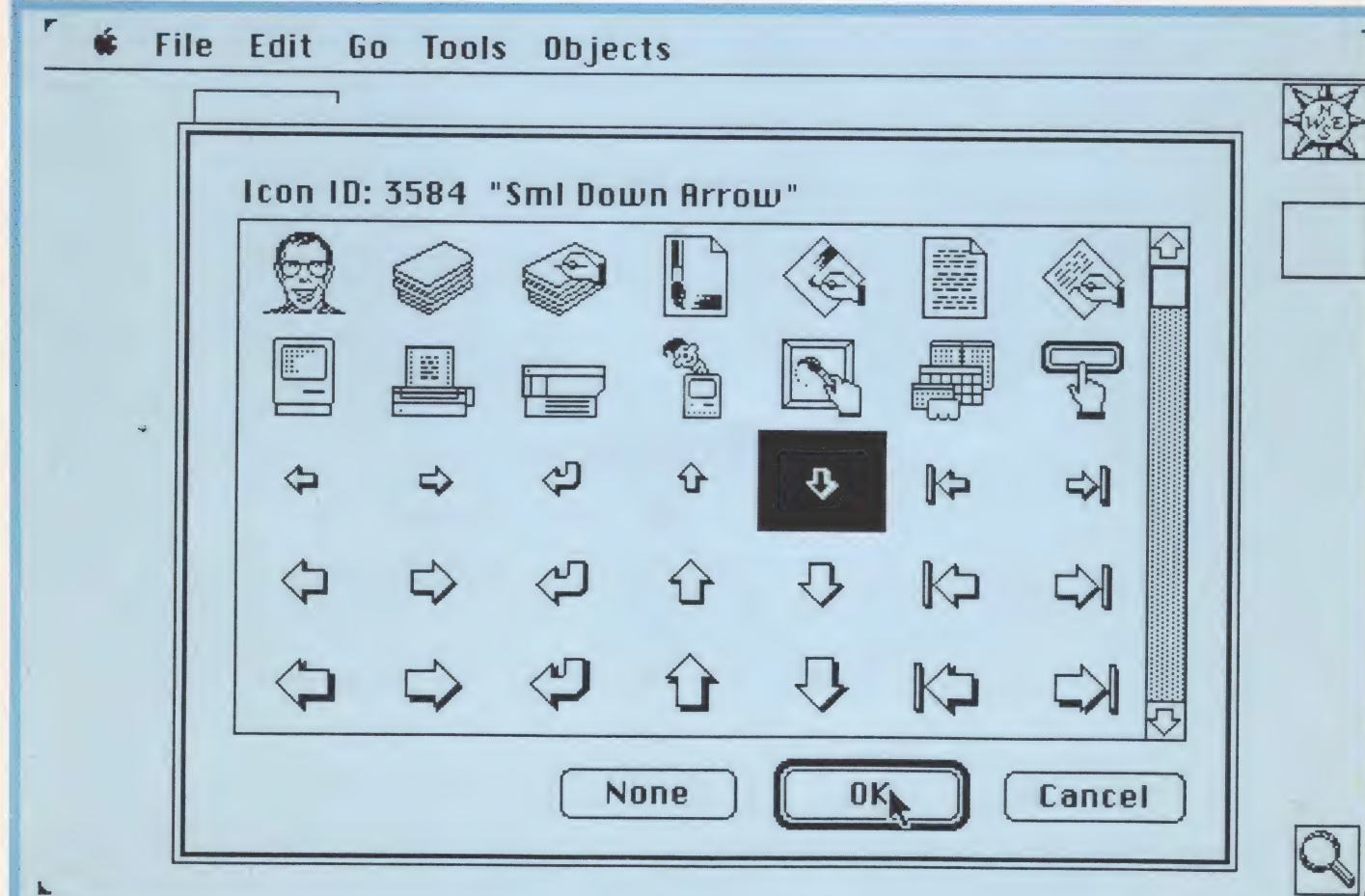
Copy the Button

Choose Browse mode to test the button

You go to S.C. card.

Paste the button onto S.C. card

Create in the same way an up-pointing button in S.C. card  
with the script : go to previous card





## 9. Navigating Between Counties

### The First and Last Cards

## HyperCard

As you saw when building the navigating links between the state cards, the first and last cards only use one Next or Previous button. L.A. only needs a Previous button (left arrow) and S.F. needs only a Next button (right arrow).

**Copy/Paste the Next and Previous buttons where necessary**

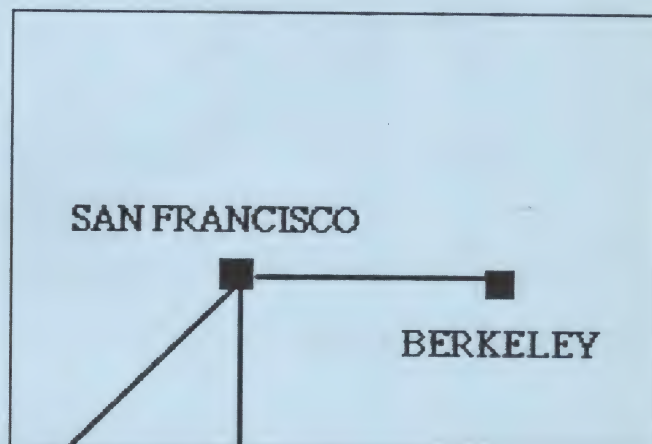
**Choose Browse mode**

**Test the navigation between counties**

File Edit Go Tools Objects



SAN FRANCISCO COUNTY



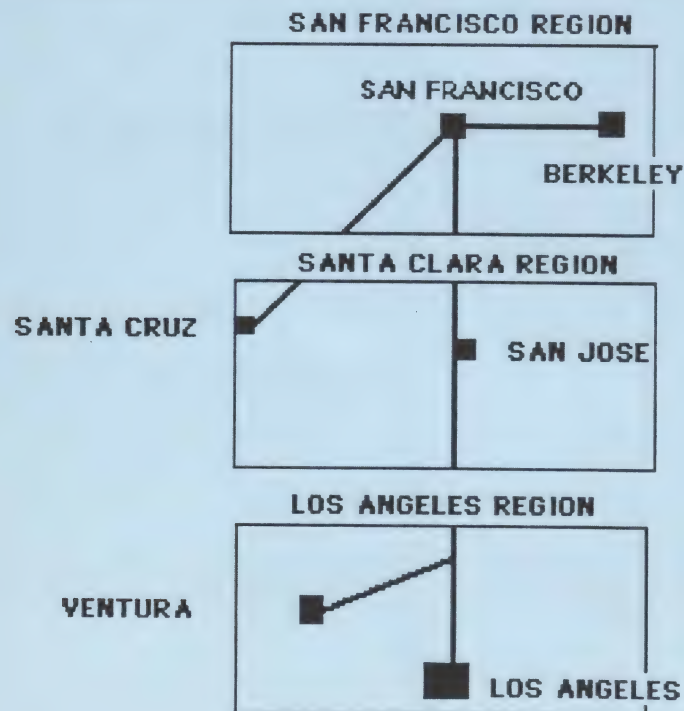
+





Drawing the Itinerary Buttons  
The Button Properties  
The Link To Feature  
Creating Links Between Cards  
Visual Effects for Switching Between Cards  
Memorizing the Route  
Using a Procedure  
Writing the Procedure  
The Route Memory Button  
The Script  
Creating a Work Card  
Naming the Work Card  
A Counter Field  
Changing Font  
Setting the Counter

Incrementing the Counter  
Decrementing the Counter  
Testing Incrementation and Decrementation  
Testing the Counter  
Using the Counter Test  
Hiding the Button  
Showing the Button  
A Global Variable  
Using the Global Variable  
Testing the Number of Marked Cards  
Automating the Counter Setting  
Testing the Application



## 10. A Highway Itinerary

### Drawing the Itinerary Buttons

## HyperCard

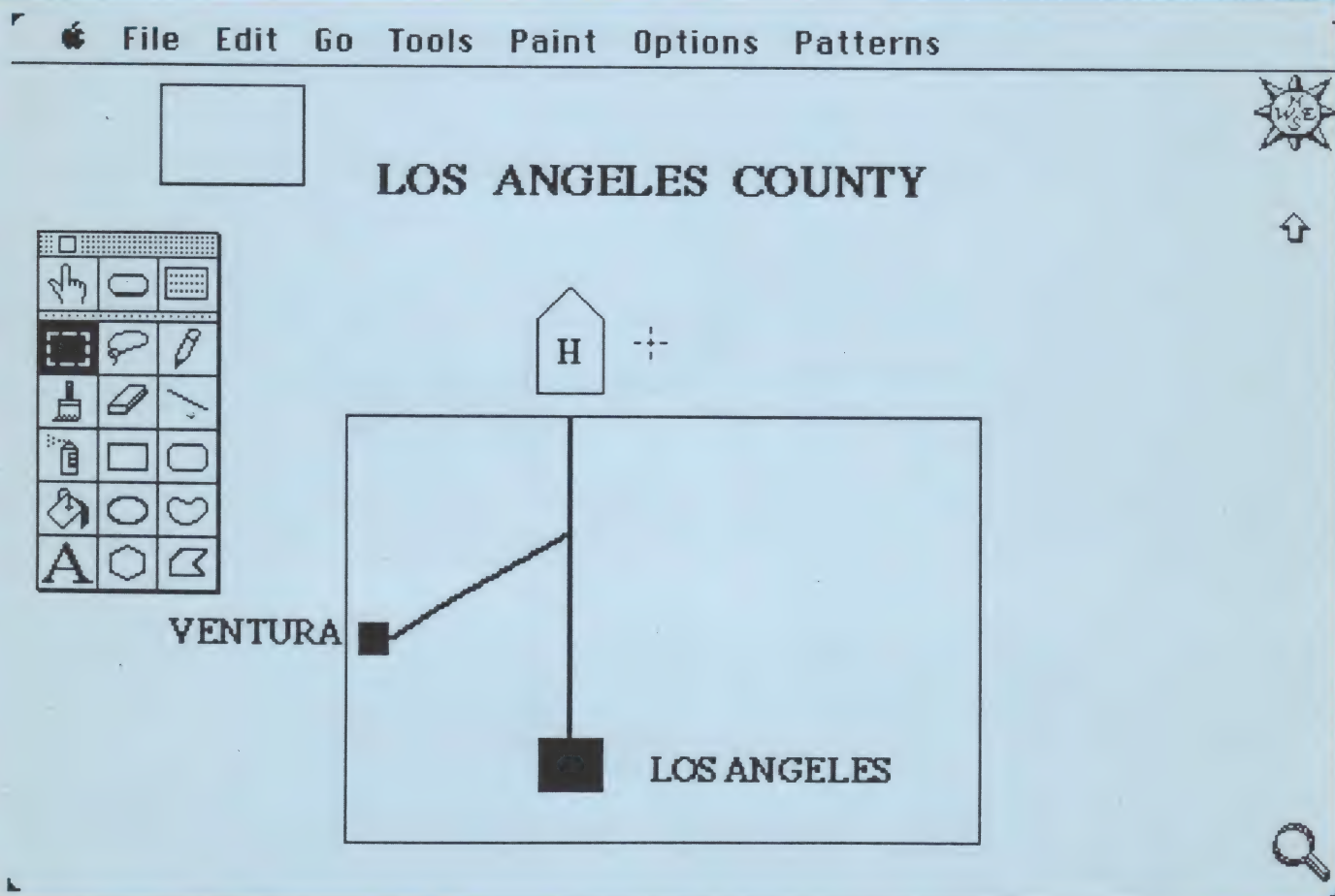
In the next few chapters, you're going to build a highway itinerary that will answer the questions: how do I get from one city to another in the California state? How do I get back the way I came?

With the previous topographical navigations, you succeeded, from the linear information management of HyperCard, in building tree-like structures.

USA States Counties

You'll see how to put together an expert structure with deduction and induction. The first part will be the Go route. But first of all, you want to create the buttons that will let you follow the highway from one county to another. There's nothing really suitable in the Icon catalog, so use MacPaint (FatBits, Pencil, Flip Vertical, etc.) to draw your own button icons.

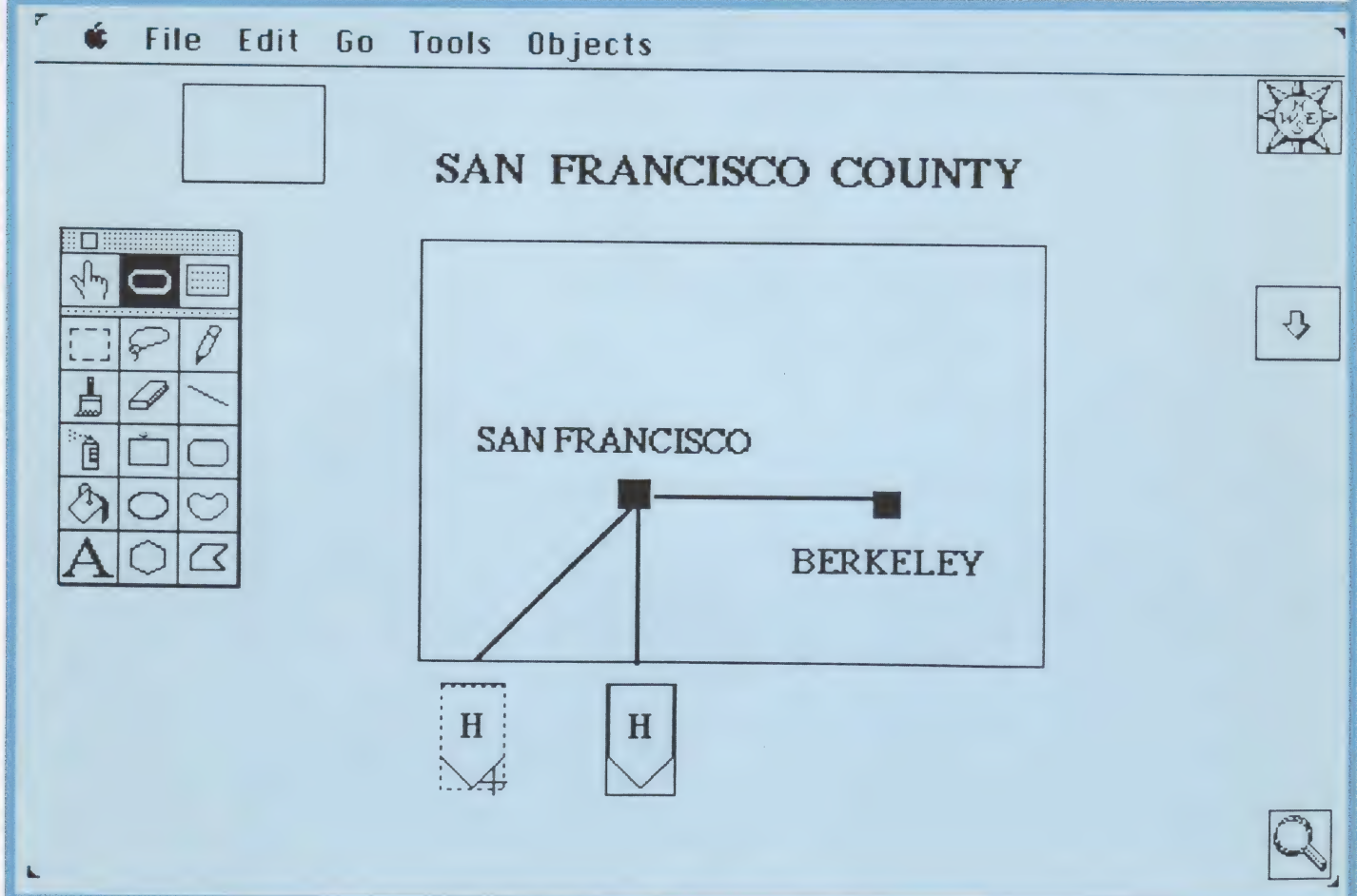
Draw the arrow icon shown below





You've drawn an Up arrow (to go up the highway) which you can copy and then flip vertically to create a Down arrow. You'll now create transparent buttons the size of these two icons. Create one card button, then copy paste it to all the arrow icons on the other cards.

- Use **Flip Vertical** from the **Paint** menu to create a Down arrow
- Copy/Paste the icons to all the County cards
- Choose the **Button** tool
- Create a transparent button
- Position it on an arrow and resize it
- Copy/Paste the button on all the other cards



## 10. A Highway Itinerary

### The Link To Feature

## HyperCard

The buttons are ready. You just need to define the highway itinerary. You've already seen how to use scripts to control navigation between cards.

This time you're going to use the HyperCard "Link To" feature to set links between the cards. Begin by going to the card you'll start from (L.A. for example), then bring up the dialog box, and specify which card you want to link to.

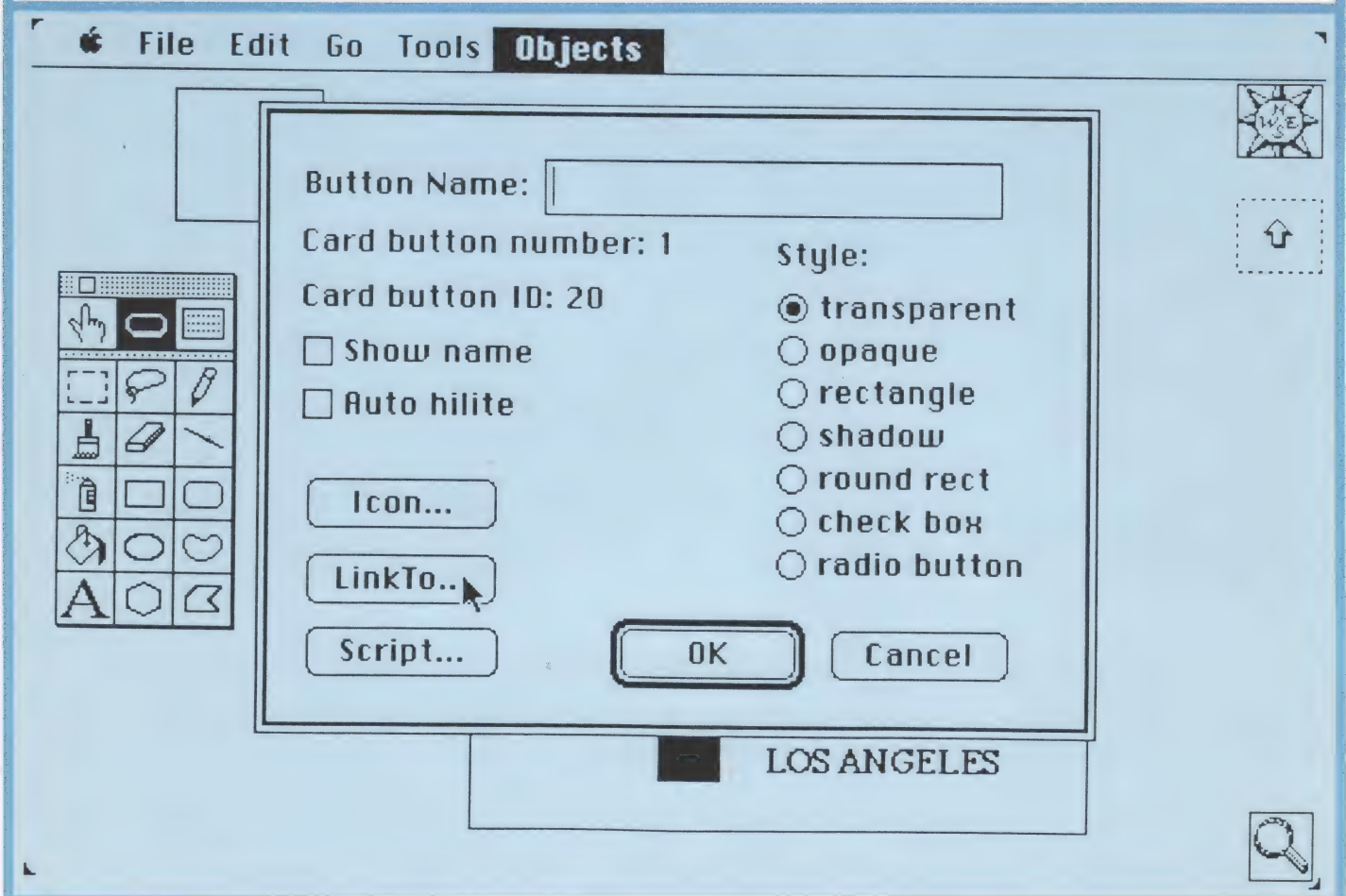
**Make sure you're in Button mode**

**Click the Up arrow icon button on the L.A. card**

**Choose Button Info... from the Objects menu**

**(or double-click the button)**

**Click Link To...**





# HyperCard

## 10. A Highway Itinerary Creating Links Between Cards

You are in the process of building the highway link which starts from the card Los Angeles and goes up through Santa Clara County. Create this link first, then continue the procedure linking all the buttons so that the highway itinerary follows the route up and down the state. For each button, you'll define a direct link between two cards without writing a script.

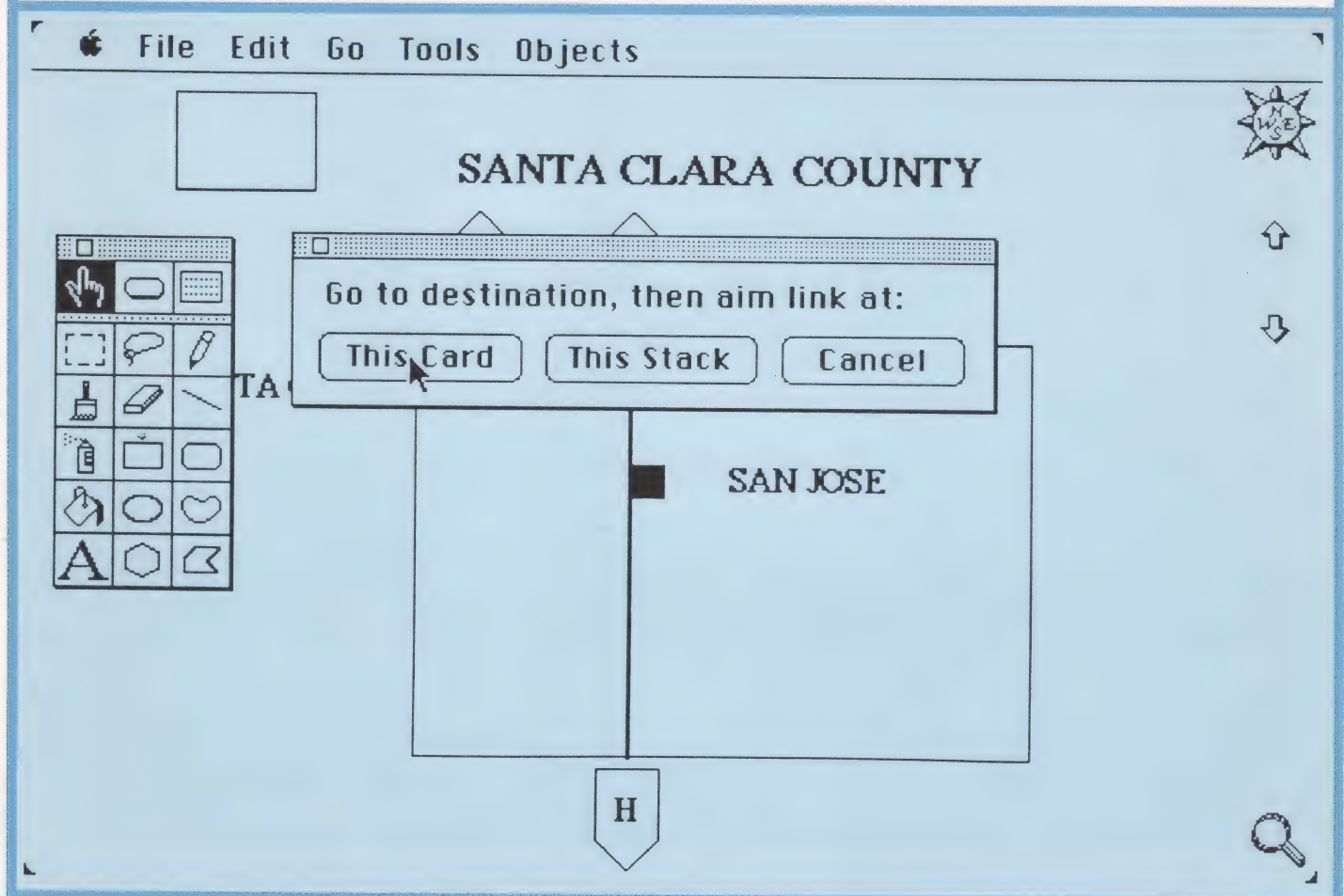
Use the keyboard keys to go to the card you want to link to S.C.:

**Go to the card you want to link to**

**Click the *This Card* button**

**Repeat the procedure for each navigating arrow button  
to link the highway itinerary cards**

**Note:** If the dialog box gets in your way when you're looking for the card you want to link to, click its top bar and drag it out of the way. You can do this with any HyperCard dialog box that has a top bar and a close box.



## 10. A Highway Itinerary

### Visual Effects for Switching Between Cards

## HyperCard

HyperCard transcribes the link in a “go to card id (number)” script.

To add impact to the switch between cards (when the user clicks an arrow icon), you can create a visual effect which will open the card in a way you specify. You have the choice of many visual effects and you can control their speed etc. by writing the command into the button script. Choose the “scroll up” effect for the “Up” buttons which will give the impression of moving north up the highway, and the “scroll down” effect for the “Down” buttons which gives the opposite effect. You can also choose “scroll right”.

**Go to the L.A. card and open the script box of the Up arrow button**

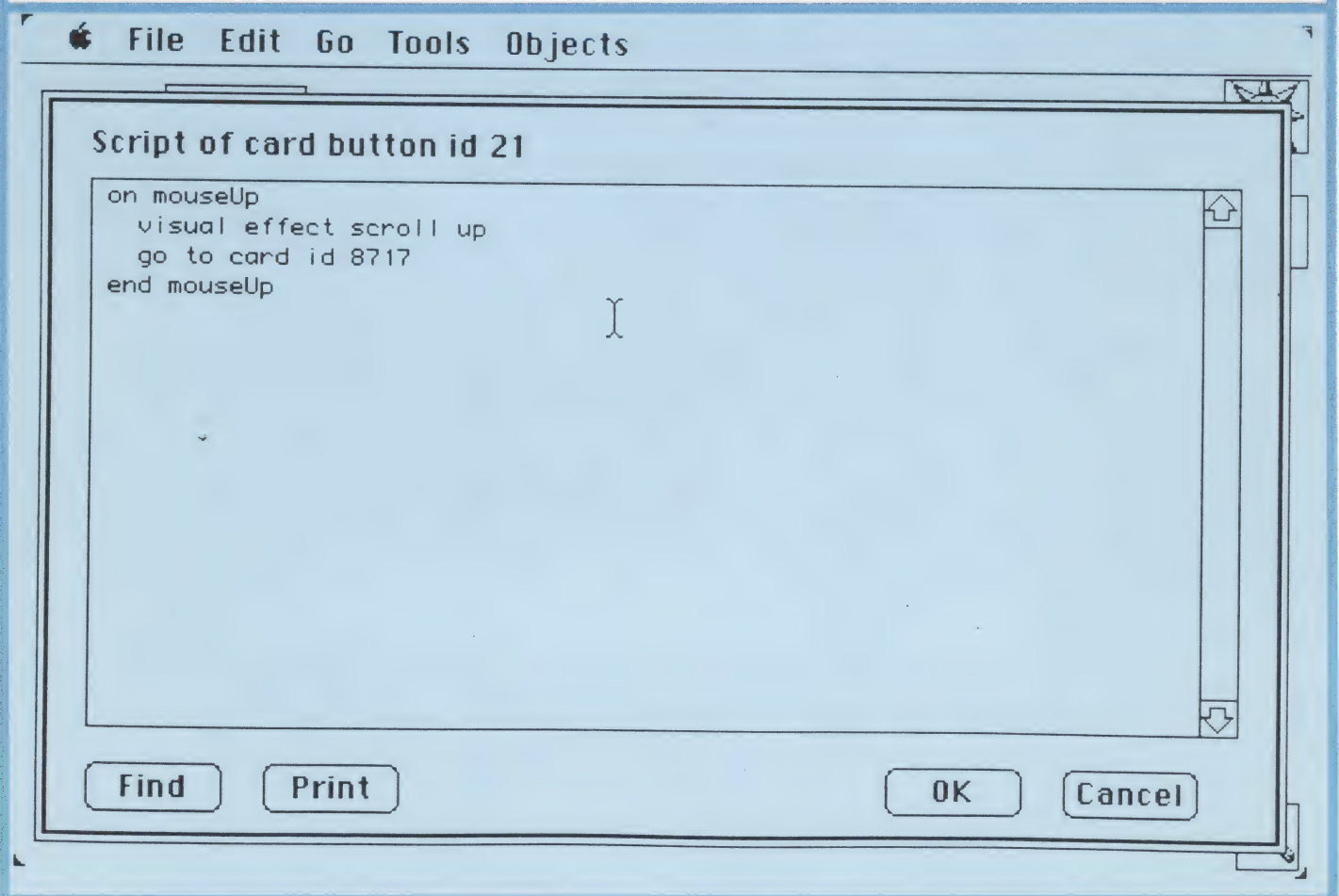
Notice that the link is automatically written in the script (go to card id 8717).

**Type in the place shown below: visual effect scroll up**

**Click OK**

**Repeat the procedure for the other buttons**

**replacing “scroll up” by “scroll down” for the Down arrow buttons**



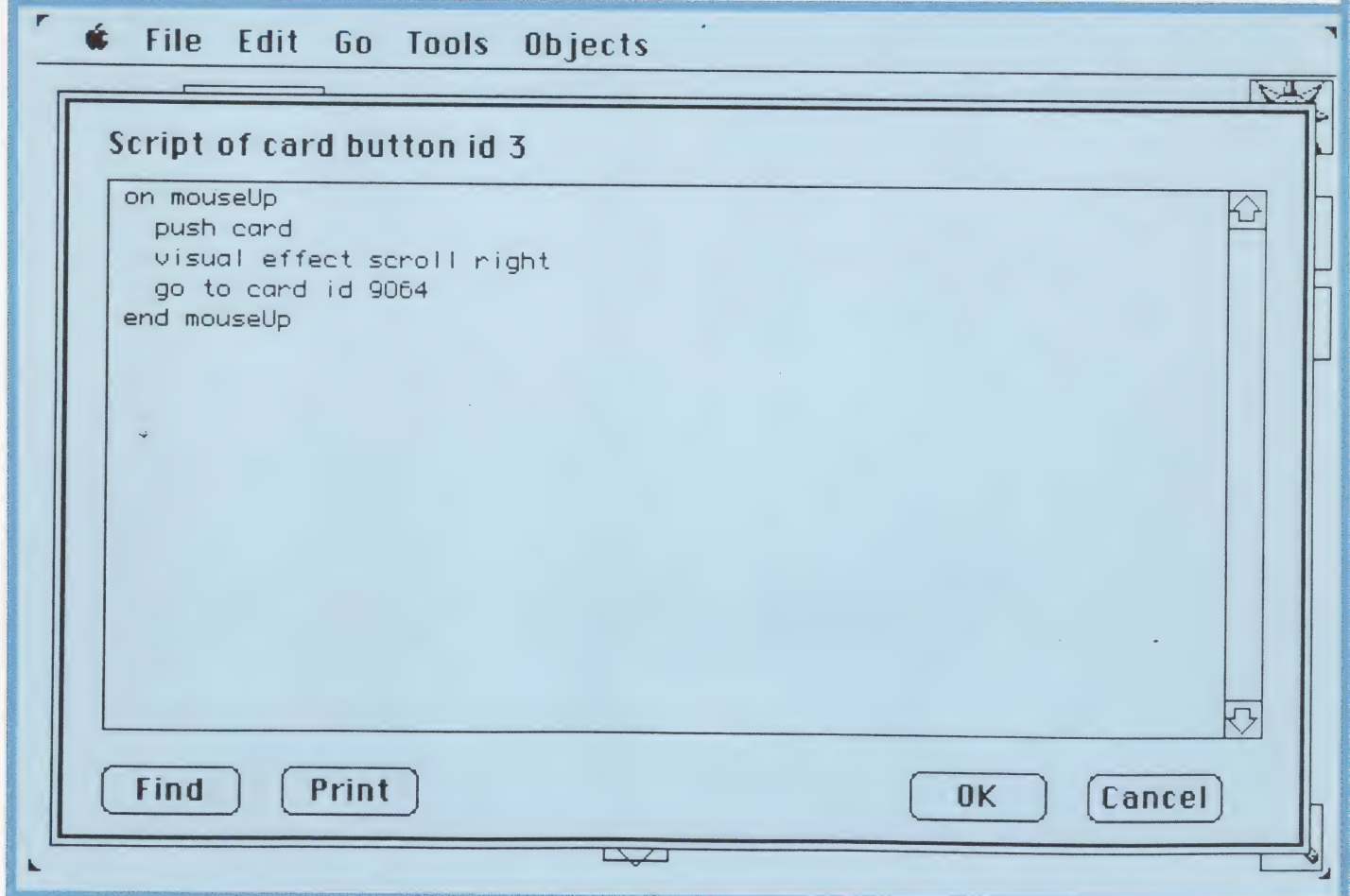


After trying out your highway itinerary by using the navigating buttons, you want to go back up the highway again following the exact same route (But in San Francisco, I could have come from Sacramento, Stockton or even Salt Lake City!). Thus, to follow the exact same route, it must be stored.

With HyperCard it's easy. In the script of the navigating buttons you can add a "push card" command which marks a card for instant retrieval (rather like tagging it). This command is issued before branching to the next card.

You can have up to 20 pushed cards at a time. This command is not the same as the Recent feature which stores in memory the last 42 cards you looked at.

Open the script box of the L.A. Up arrow button  
Type in the place shown below : push card  
Click OK



## 10. A Highway Itinerary

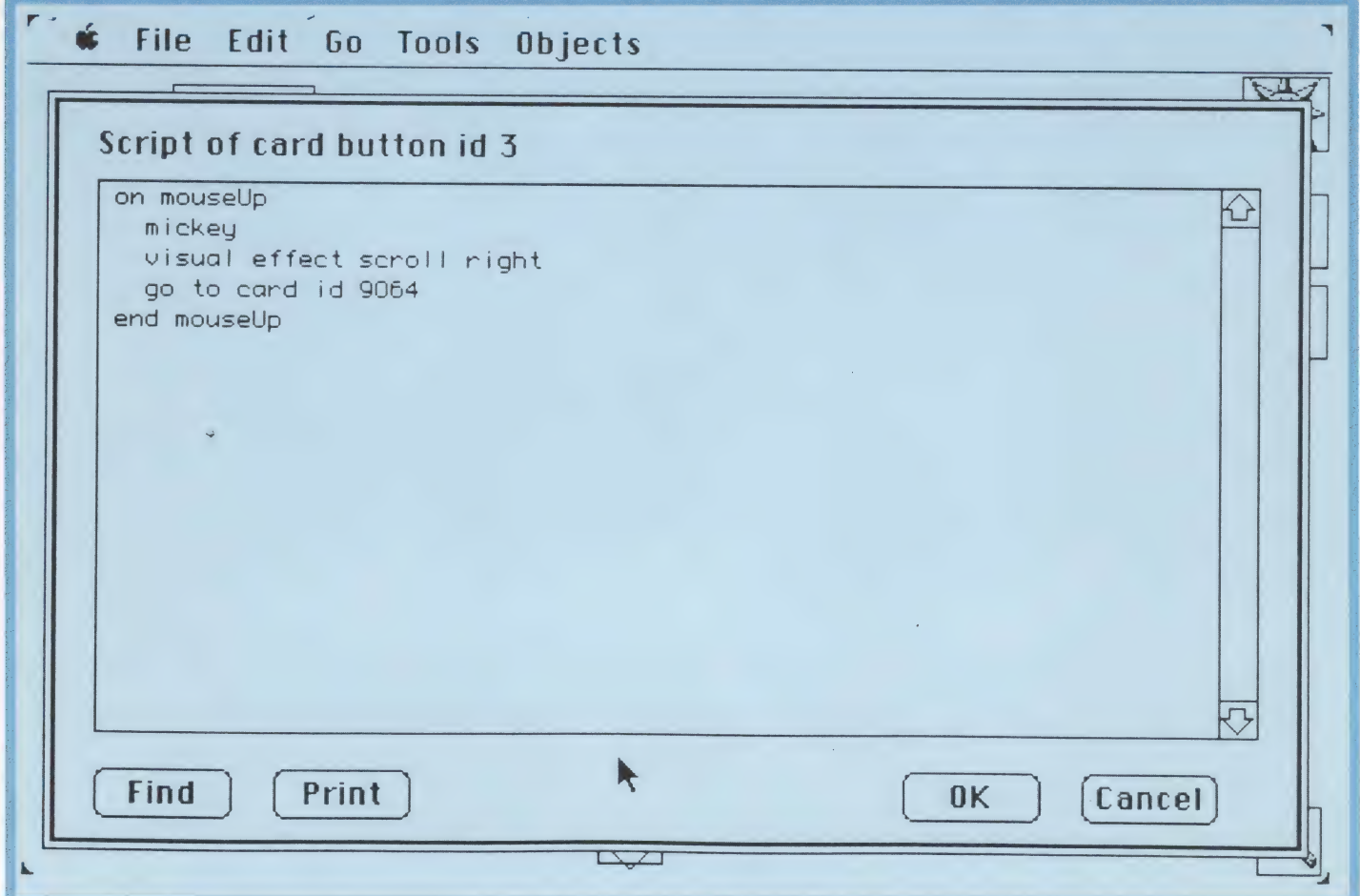
### Using a Procedure

## HyperCard

The “push card” command has to be inserted in all the highway navigating button scripts. You could copy and paste it, but since there are more commands to add later this method would be tedious. HyperTalk provides an easier way by letting you use a simple procedure (a series of instructions) which will be called into the button scripts.

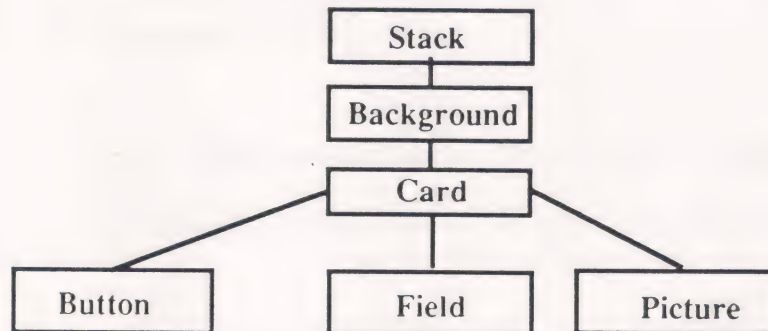
The procedure is given the name of your choice. Here, it's called “mickey” and for the moment is only used for the “push card” command. You insert the name of the procedure into the script at the place you want it to take effect, and write the procedure itself in another script. Then, you'll only have to edit or add to the procedure script and it will automatically be included in every corresponding button script.

**Replace the “push card” command with the procedure name: mickey**  
**Add “mickey” to all the highway navigating button scripts**

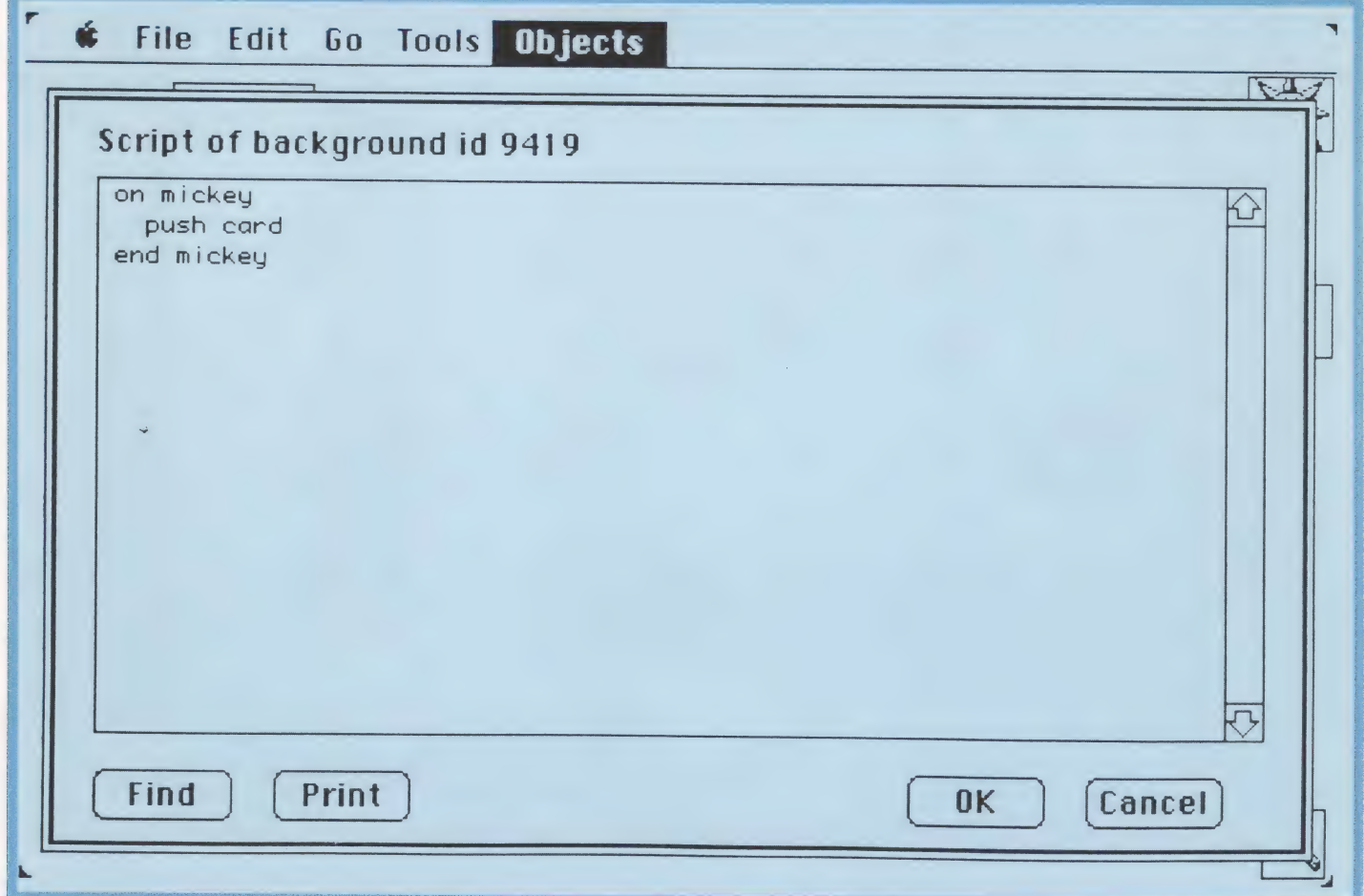




At which level are you going to define this procedure? Keep in mind the hierarchical order of things in HyperCard and ask yourself which elements have this procedure in common. In this case, all the highway navigating buttons on the County cards are going to use this procedure, and since they all have the same background in common, you can write it on background level.



Go to the Background Script...  
Type the script shown below



## 10. A Highway Itinerary

### The Route Memory Button

## HyperCard

When you follow a highway route, the “go” cards (depending on the space available) are memorized or “pushed”. To help the user find the same route back, you create a button and write its script using the “pop” command which restores the memorized cards.

Create a transparent background button hiding the name and use the Marker Cross icon from the Icon catalog. The script is simply “pop card”. HyperCard then displays the last pushed card, followed by the one before last and so on.

**Choose Background** from the **Edit** menu (Command-B)

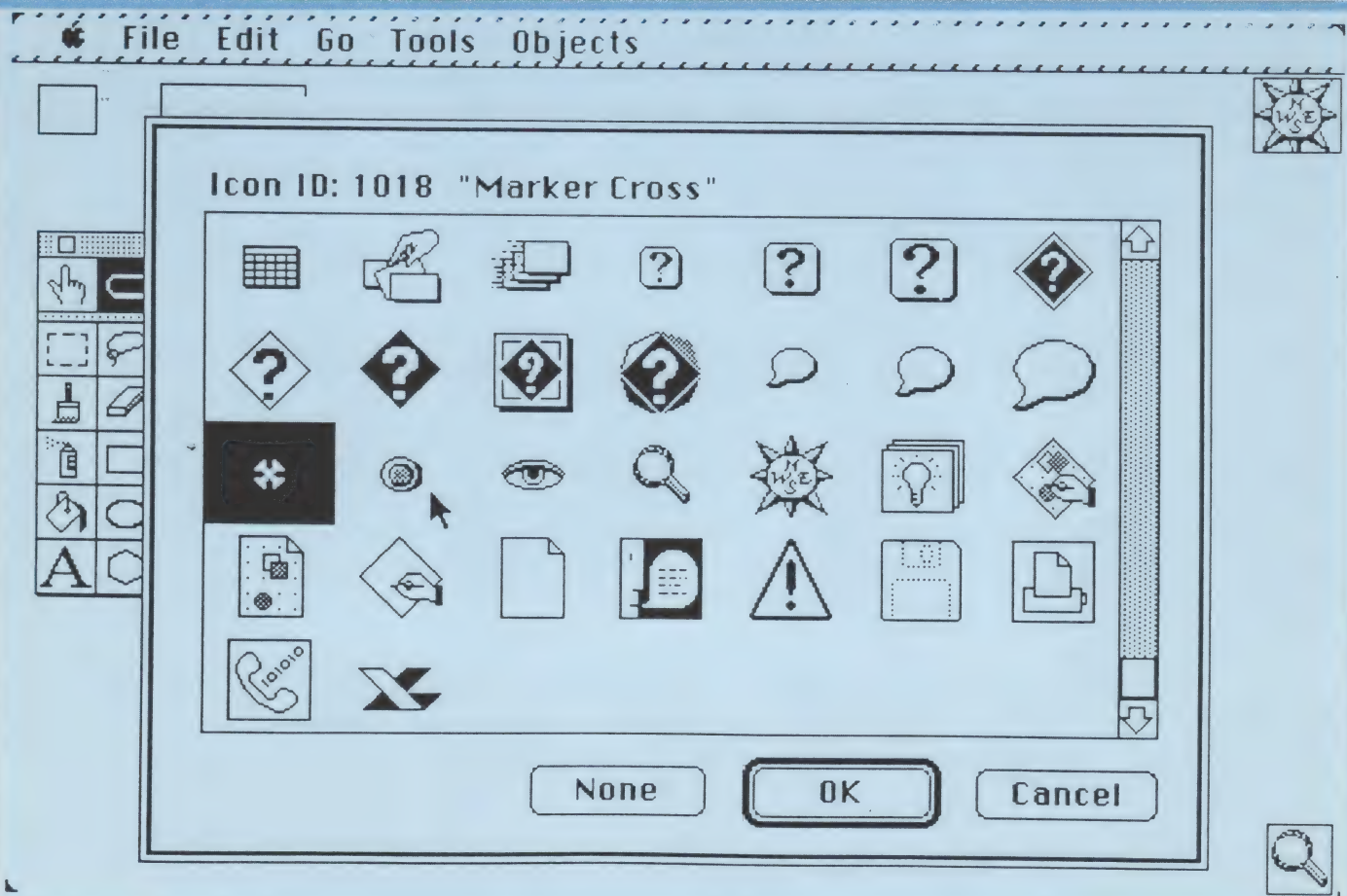
The striped lines around the menu bar show you're working in a background.

Select the Button tool

Create a transparent button with the Marker Cross icon as shown below

Delete the name New Button given by HyperCard

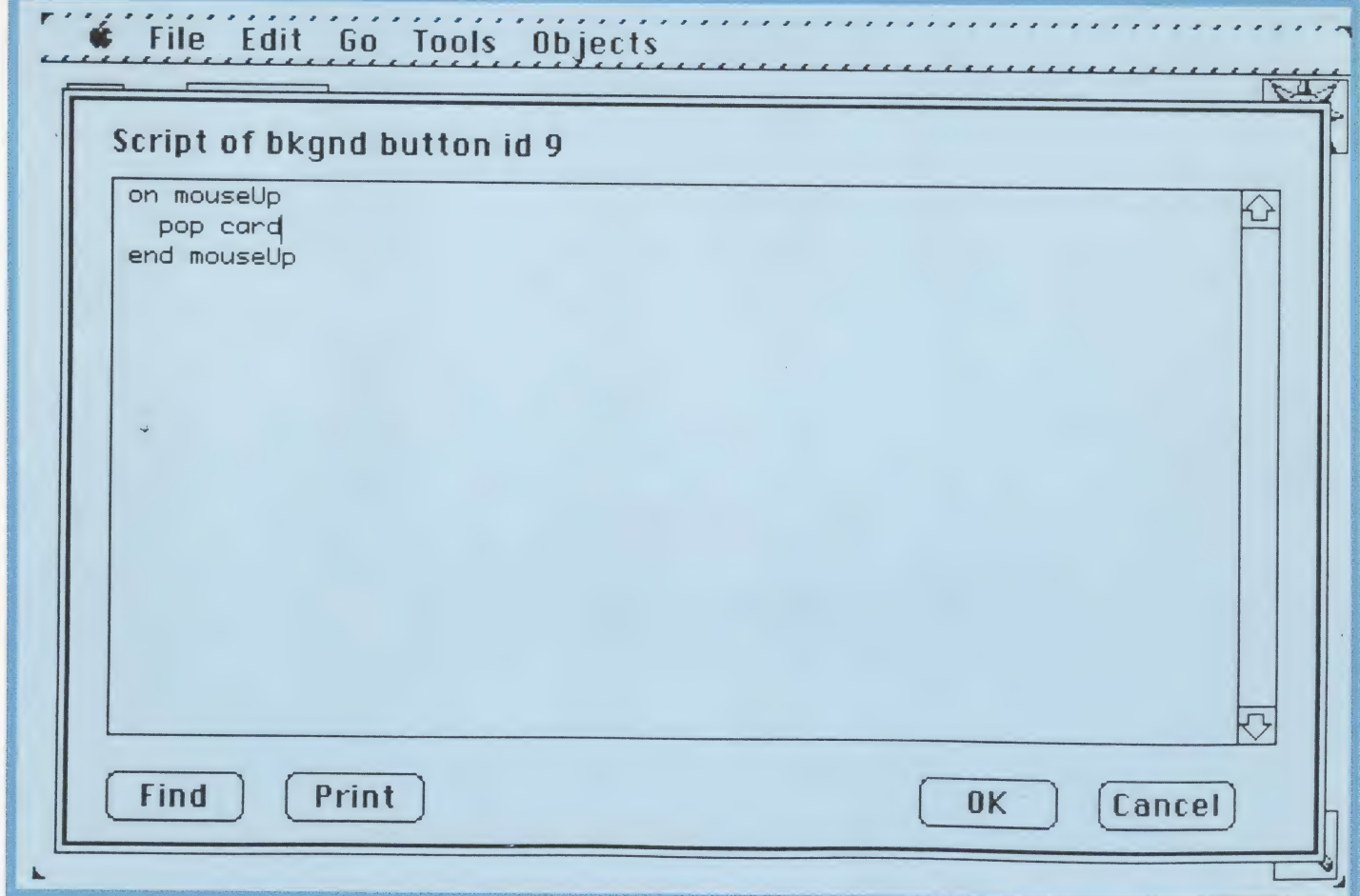
Click OK





Use the HyperCard “pop” command which restores the pushed cards. It’s a background button script so you only have to write it once.

Go to the Marker Cross button script box  
Type the script (pop card)  
Click OK



## 10. A Highway Itinerary

### Creating a Work Card

## HyperCard

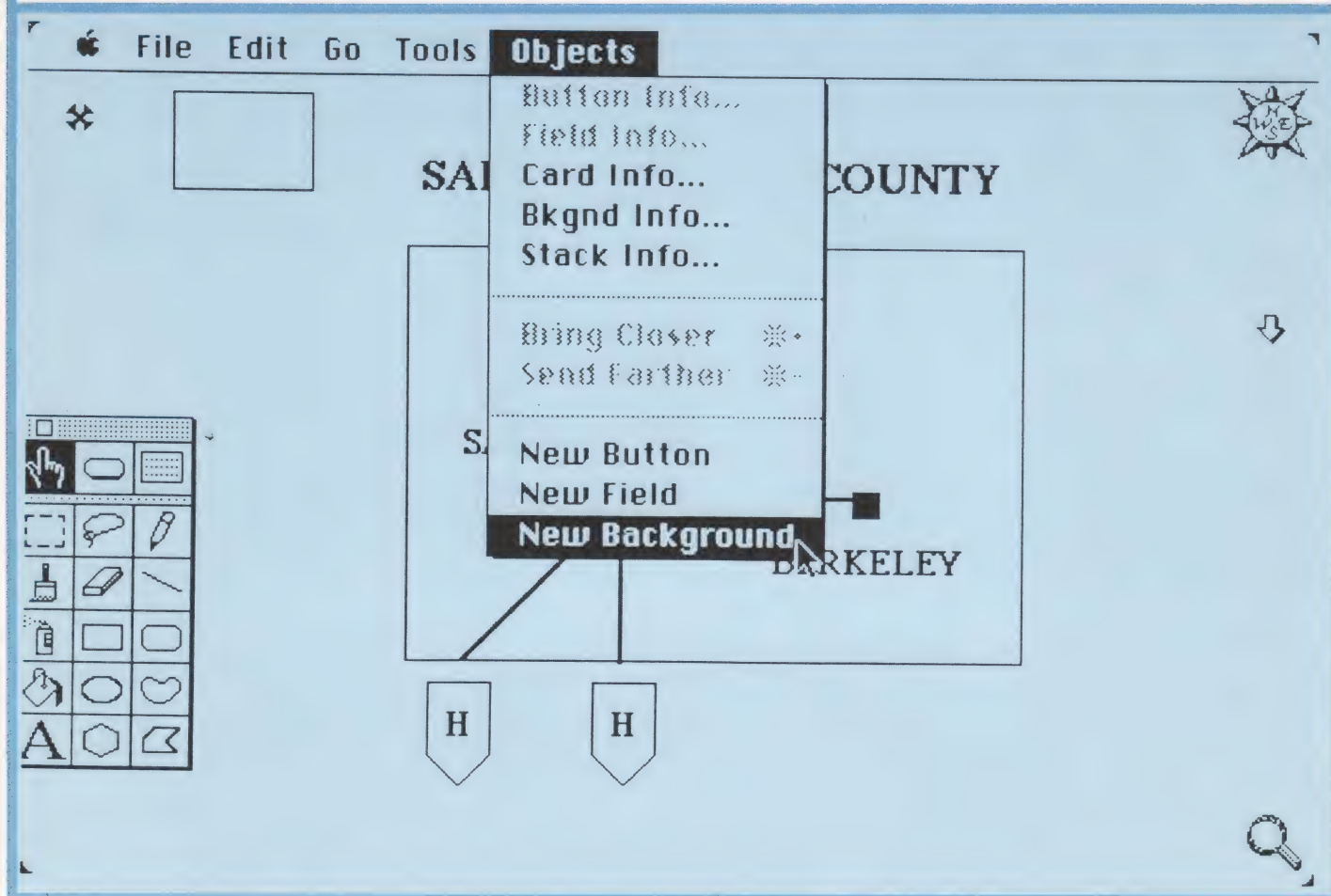
When there are no more cards to pop, the route memory button (marker cross) will have no use, but will still be displayed on the screen. There is a way of displaying this button only when it is needed.

You're going to create a counter which will be automatically incremented by one each time a card is pushed. This counter will be created in a separate work card named "parameter" and will be transparent to the end user. The background objects of the County cards won't be needed on this work card, so create it on a new blank background.

**Make sure you're in Browse mode**

**Go to the last card in the stack**

**Choose **New Background** from the **Objects** menu**



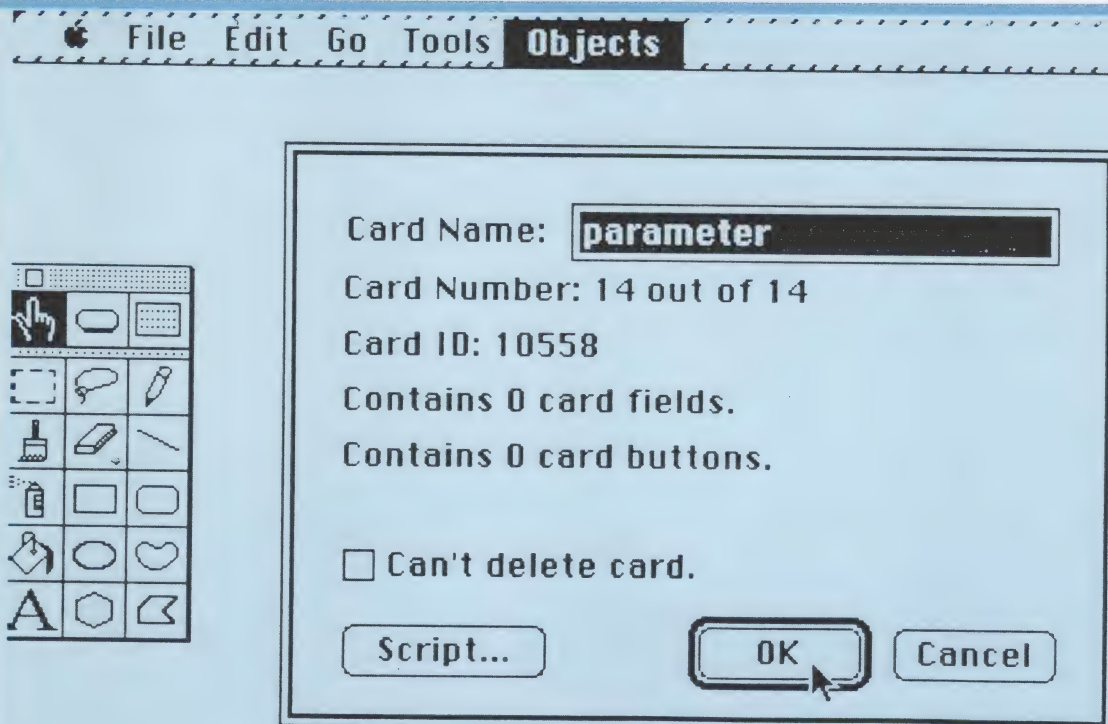


The HyperCard menu bar is surrounded by diagonally striped lines showing that you are working on a background. Name the card "parameter."

Choose **Card Info...** from the **Objects** menu

Type the name

Click **OK**



## 10. A Highway Itinerary

### A Counter Field

## HyperCard

On this new card you'll create a counter field which will update the number of cards pushed by the push card instruction, and the number of cards restituted by pop card.

Select the Field tool

Choose **New Field** from the **Objects** menu

(or Command, click-drag)

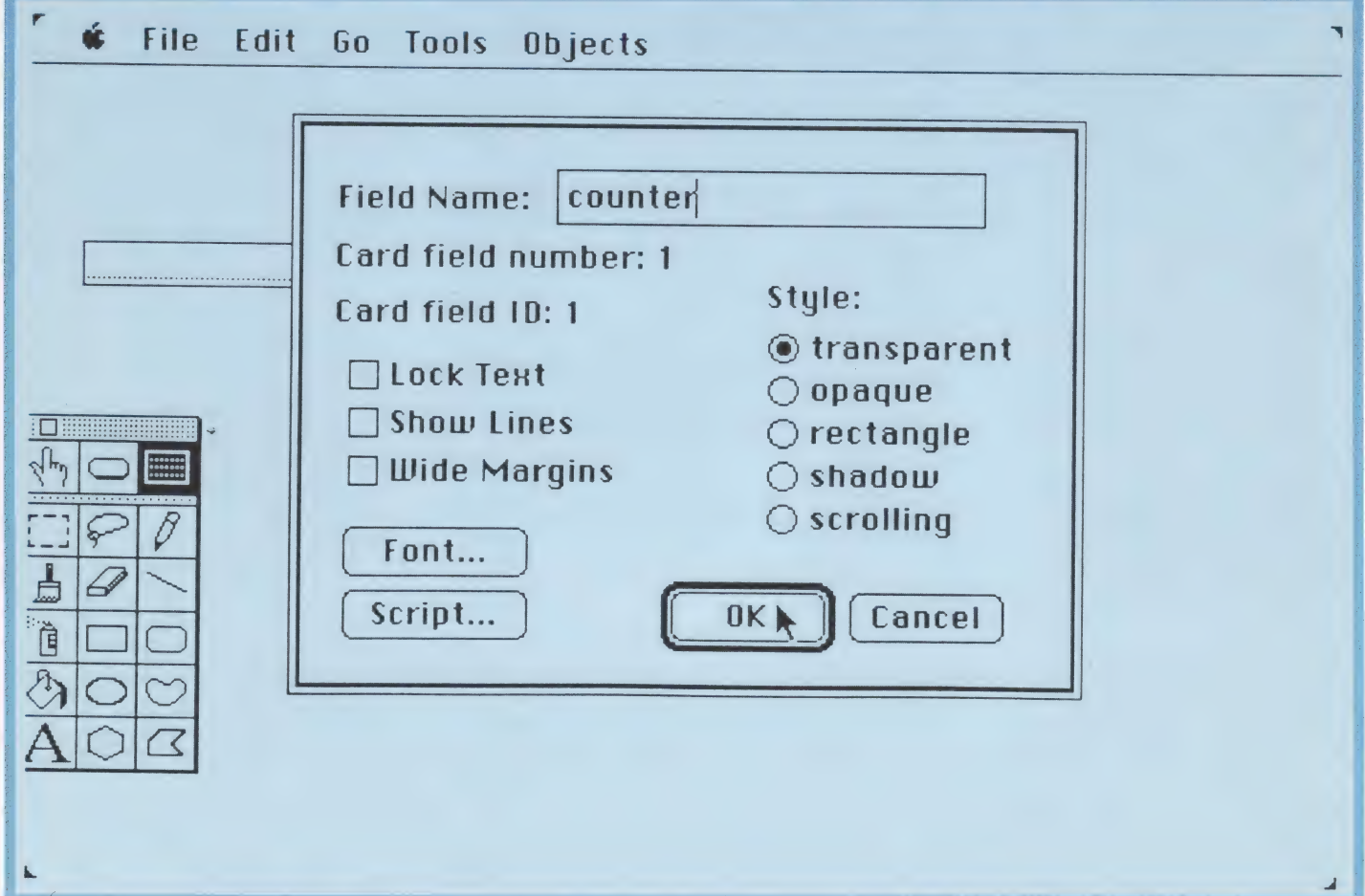
Size it to a one-line field

Double-click the field to see the Info box

Type the field name: counter

Click the option: **transparent**

Click **OK**





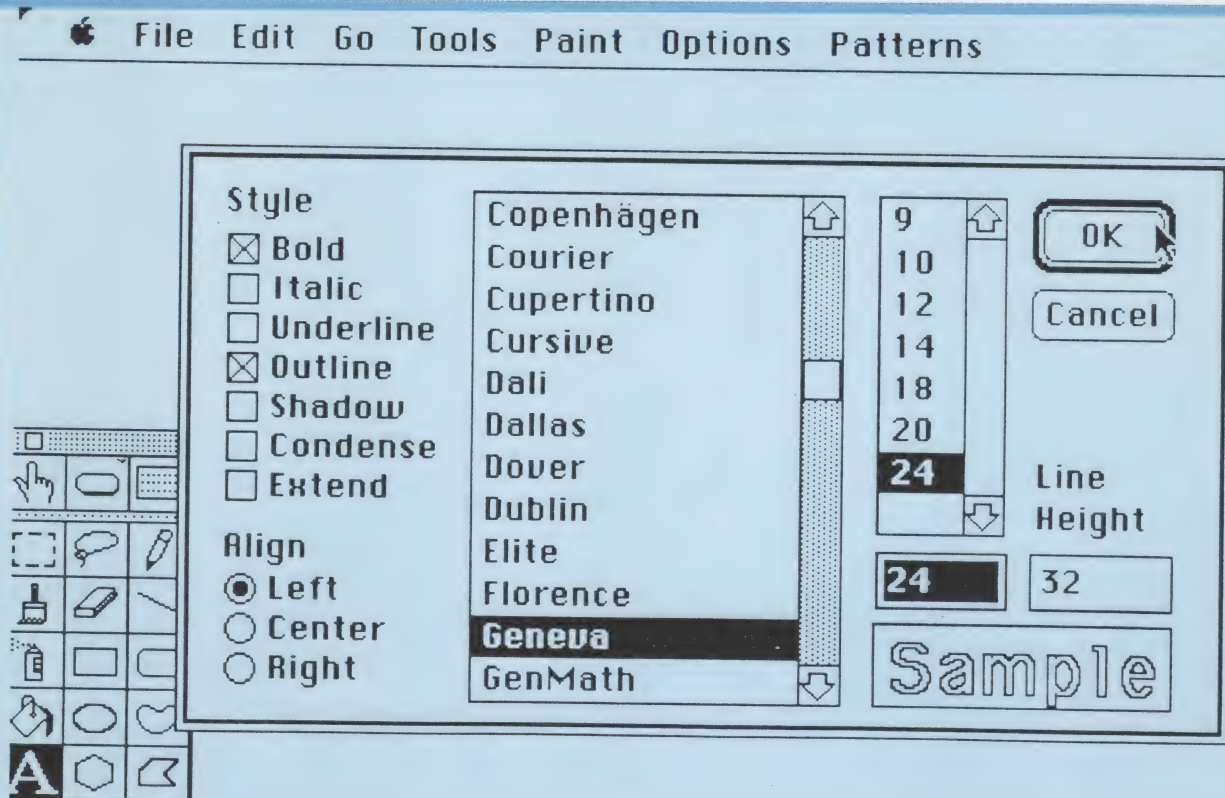
You can specify the style of text (font, size, style, alignment, etc.) you want in a field from the Text Style dialog box. The Sample box in the lower right shows you what the text will look like.

Reminder: You cannot use two different styles for Text in the same field.

Click **Font...**

Choose the font, style, size, and alignment you want

Click **OK**



## 10. A Highway Itinerary

### Setting the Counter

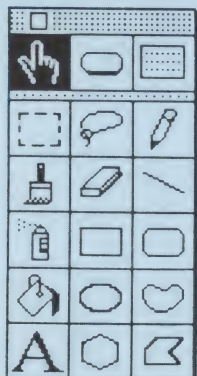
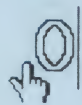
## HyperCard

To set the counter to zero, type 0 in the field. You'll see later how this counter setting can be integrated in a stack script and set in motion each time the stack is opened.

Choose Browse mode

Type 0 in the counter field

Press the Enter key to confirm





The instruction to increment the counter needs to be added after the push card command in the mickey procedure. The counter will be incremented by 1 each time the Marker Cross button is clicked.

The procedure should have the following instructions:

push card

add 1 to line 1 of card field "counter" of card "parameter"

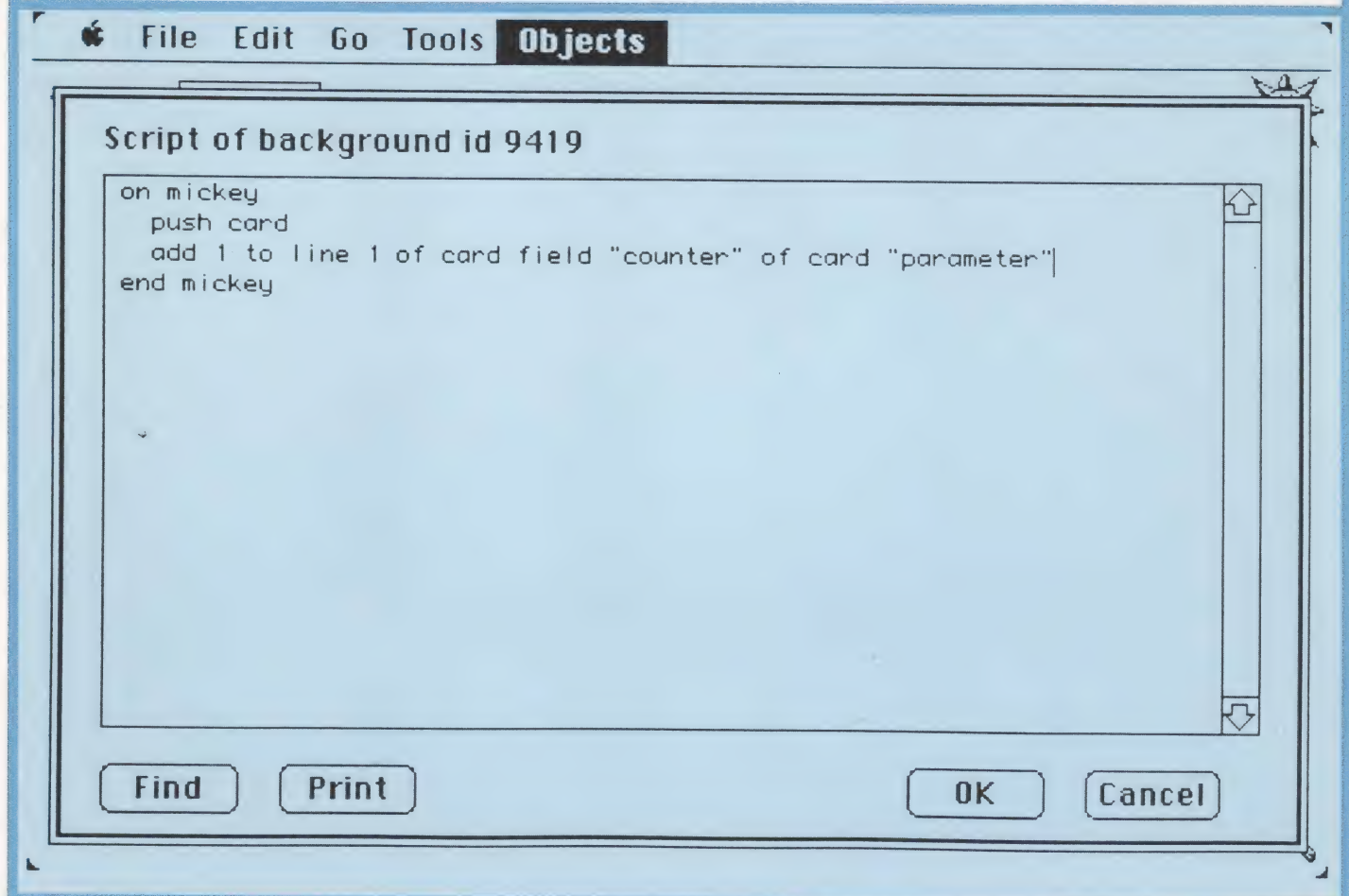
Go to one of the County cards

Choose **Background Info...** from the **Objects** menu

Click **Script...**

Add the instruction

Click **OK**



## 10. A Highway Itinerary

### Decrementing the Counter

## HyperCard

The counter will be incremented each time a card is pushed by the push card command. Now you need to include a subtract instruction that will pop (restore) a pushed card with the Marker Cross button.

The procedure should have the following instructions:

pop card

subtract 1 from line 1 of card field "counter" of card "parameter"

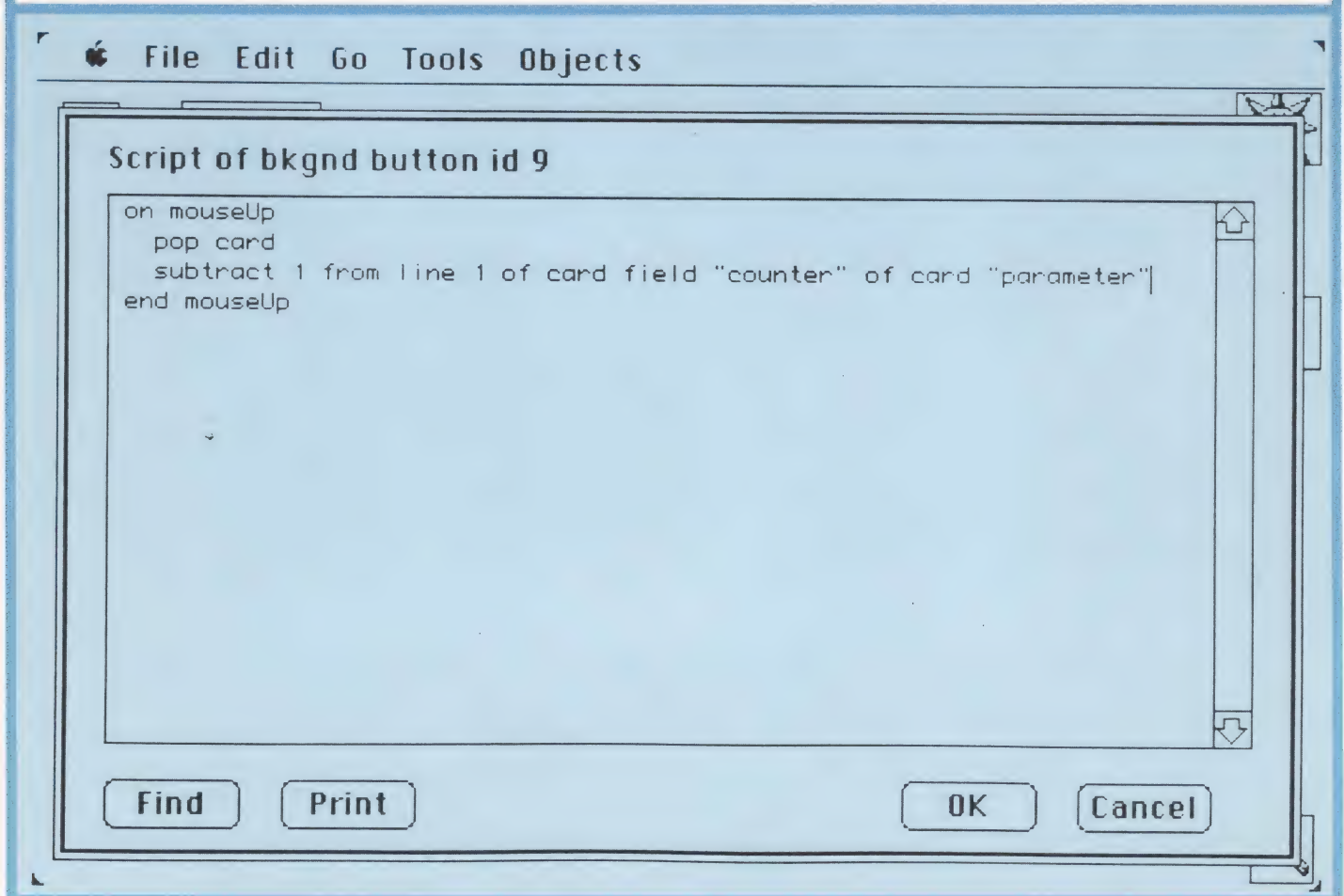
If you don't specify the type of field, HyperCard automatically considers it as a card field. The opposite is true for a button; HyperCard automatically considers it as a background button. To avoid errors and to make the script easy to read, it is usually best to give the complete name of a field or button.

**Choose Button mode**

**Go to the Marker Cross script box**

**Add the subtract instruction**

**Click OK**





To test the scripts you've just created, follow the highway route, then go to the last card (the parameter card) to see that the number of cards navigated is displayed in the counter field. Use the Marker Cross button to follow the same route back and open the parameter card to see that the counter has been decremented. If you ask to restore more cards with the Marker Cross button than were pushed on your outward journey, the counter will still be decremented without any cards having been popped. In the next few pages, you're going to adjust the Marker Cross button script and the mickey procedure to stop decrementing and halt executing unnecessary pop card instructions.

**Choose Browse mode**

**Use the highway arrow buttons to follow the route**

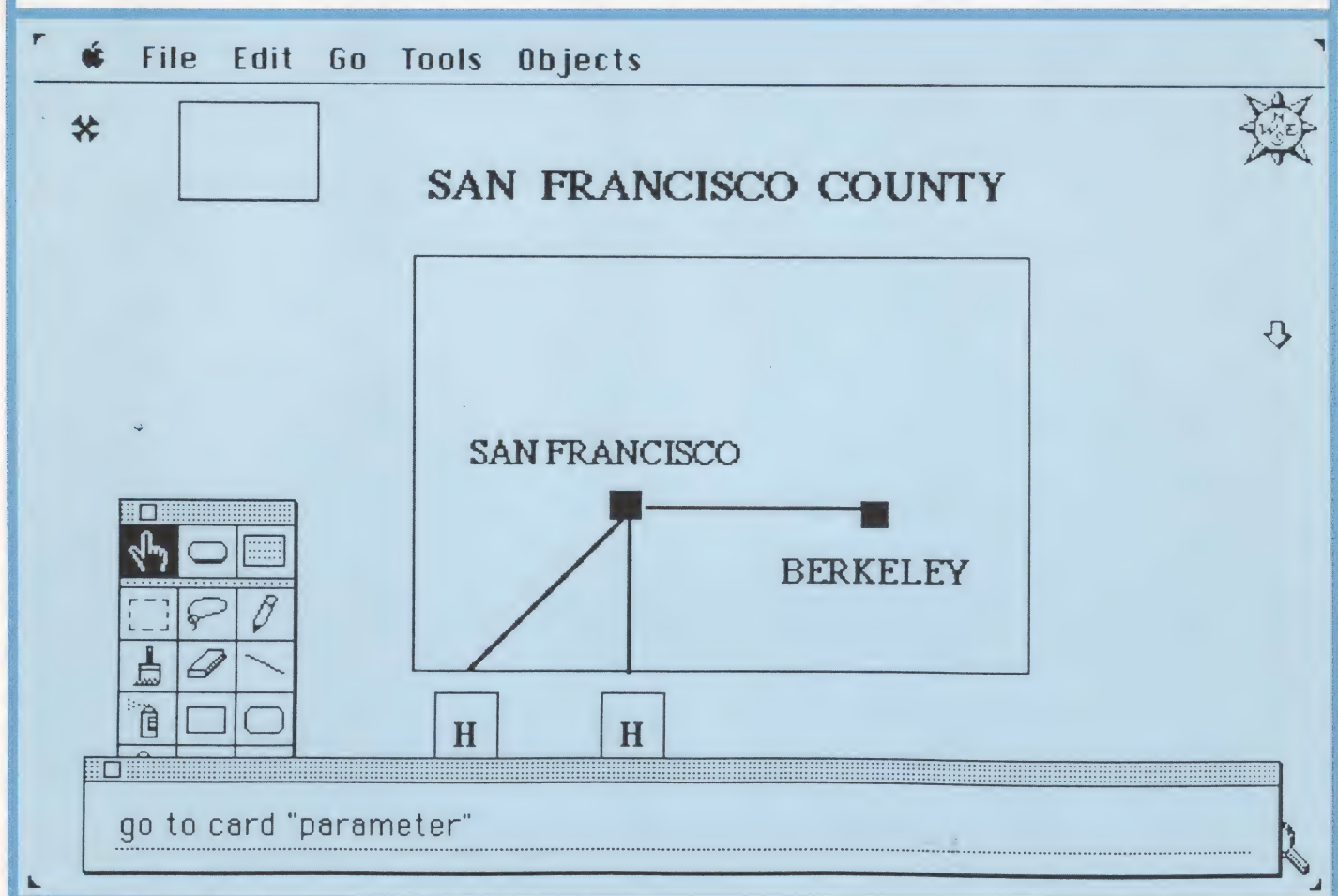
**Choose Last (Command-4) from the Go menu**

The number of cards used in the itinerary is displayed in the counter field.

**Use the Marker Cross button to follow the route back**

**Press Command-M and type: go to card "parameter"**

The counter is decremented.



## 10. A Highway Itinerary

### Testing the Counter

## HyperCard

Write the instructions to stop decrementing and the unnecessary use of the pop card command. The HyperTalk test instruction takes the following form:

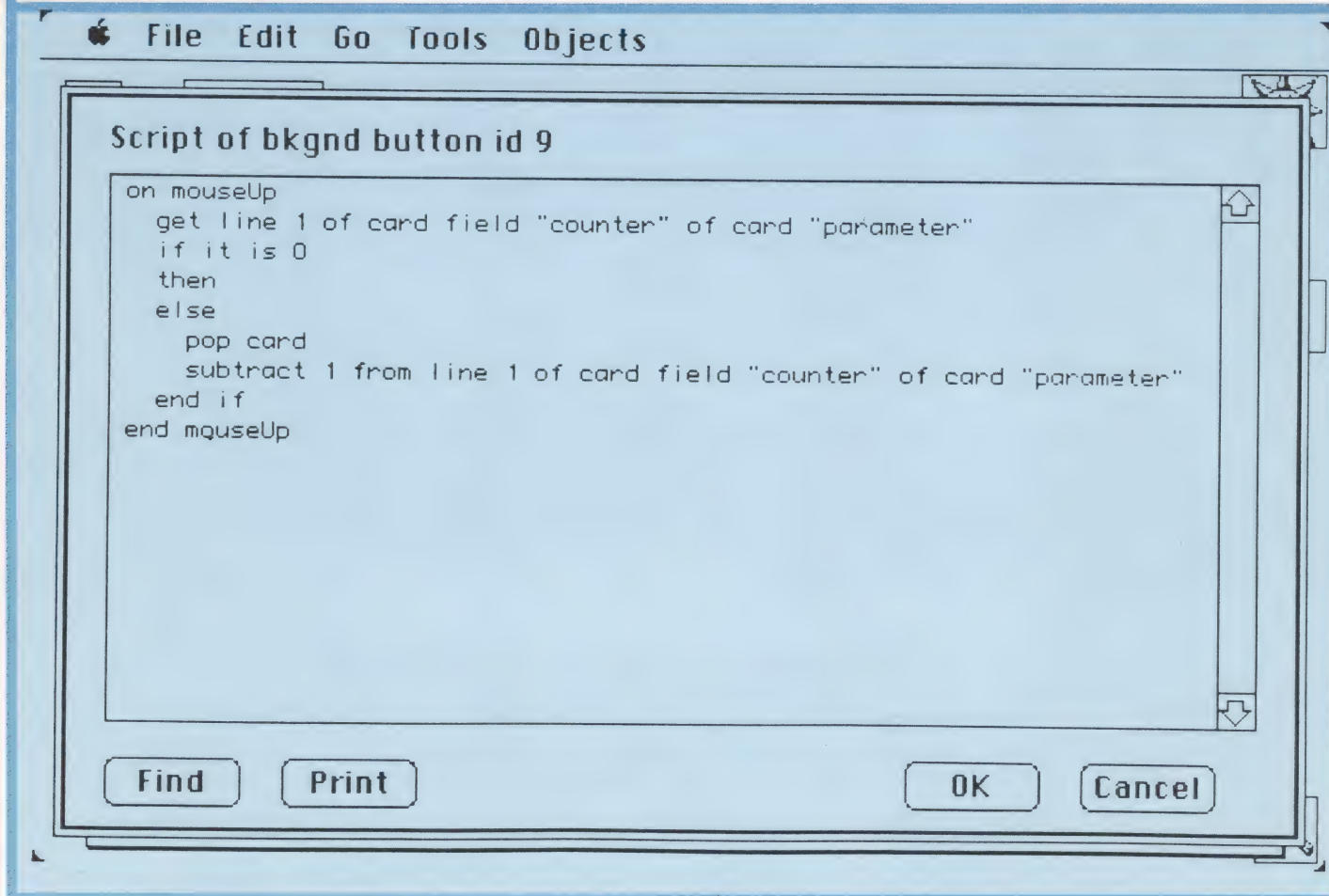
```
If (counter is 0)
    then
        (do nothing)
    else
        (pop the card and decrement the counter)
end if (end of test)
```

You must write the instructions in order. The "if" instructions are automatically indented by HyperTalk. When you press Return after the "else" instruction for instance, the pop card and subtract commands are automatically indented.

**Go to the Marker Cross button script**

**Write the counter test instructions as shown below**

**Click OK**





To use the new Marker Cross button script, follow a highway itinerary and return using the Marker Cross button. This time, once the last pushed card has been popped, the counter will remain at zero and the pop card command is no longer executed.

**Choose Browse mode**

**Follow an itinerary and return using the Marker Cross button**

**When the last card is popped, click the Marker Cross button again  
and go to the last card (parameter)**

Even though you clicked the button after the last card was popped, the counter has not been decremented, and is at zero. As it only has this one use, the Marker Cross button can be hidden when there are no more cards to pop. In the next few pages you'll specify when to display and when to hide this button.

File Edit Go Tools Objects



## 10. A Highway Itinerary

### Hiding the Button

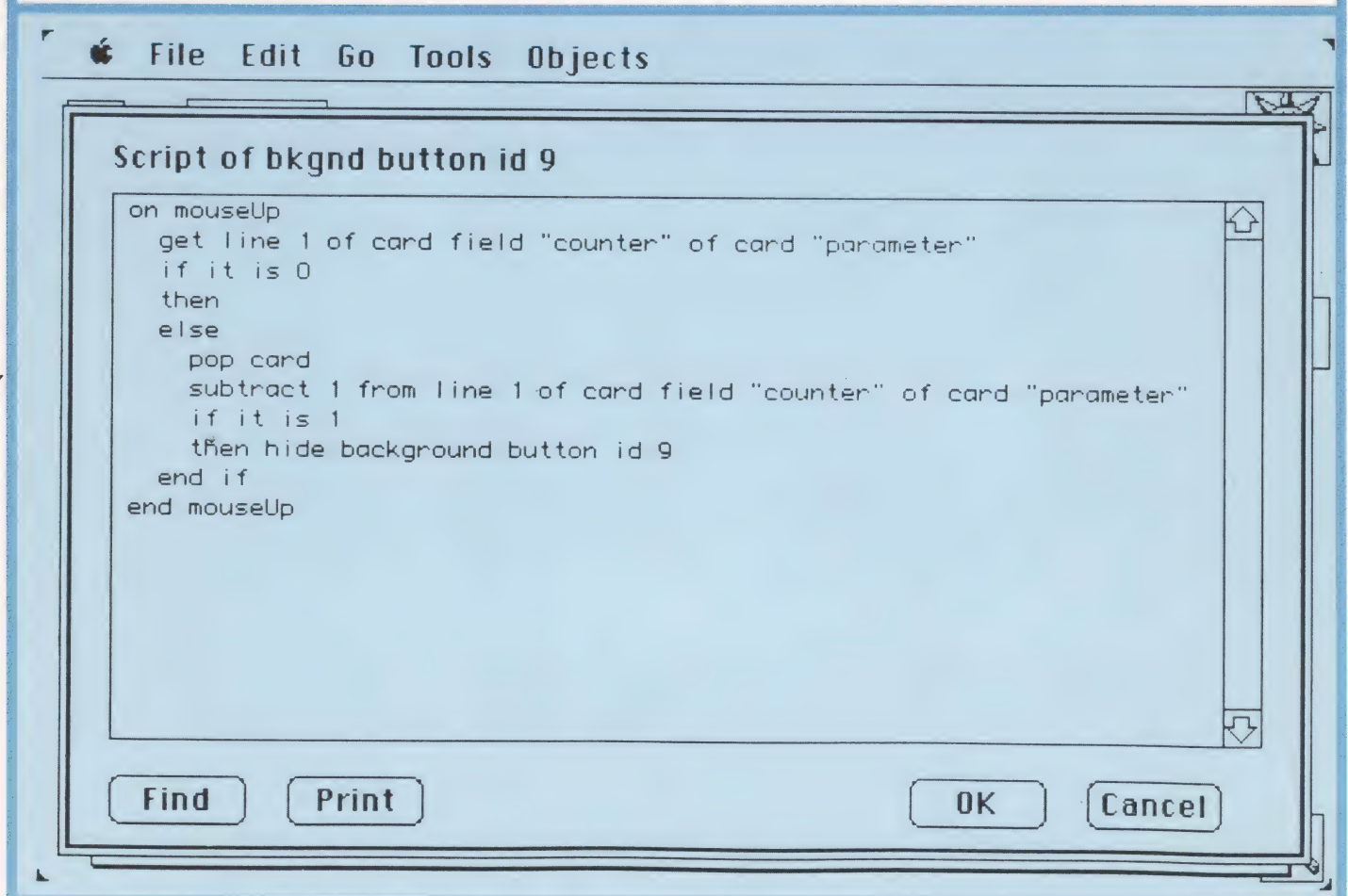
## HyperCard

You want to write an instruction to hide the Marker Cross button when it is no longer needed on the screen. In the instruction, use the full name of the button you want to hide.

Go to the Marker Cross button script

Add the instructions as shown below to hide the button (or not)

Click OK





You'll see if you follow an itinerary now, that the Marker Cross button is no longer visible on the screen once the last pushed card has been popped. However, if you follow a second itinerary the button will no longer be available for the return and you'll be lost. For this reason you need to insert a "show" command (followed by the button's full name) that will display the button as soon as a card is pushed. Insert this command in the mickey procedure (on the county card background level) above the "push card" command.

**Choose Browse mode**

**Follow an itinerary and use the Marker Cross to return**

The button is no longer visible on the screen.

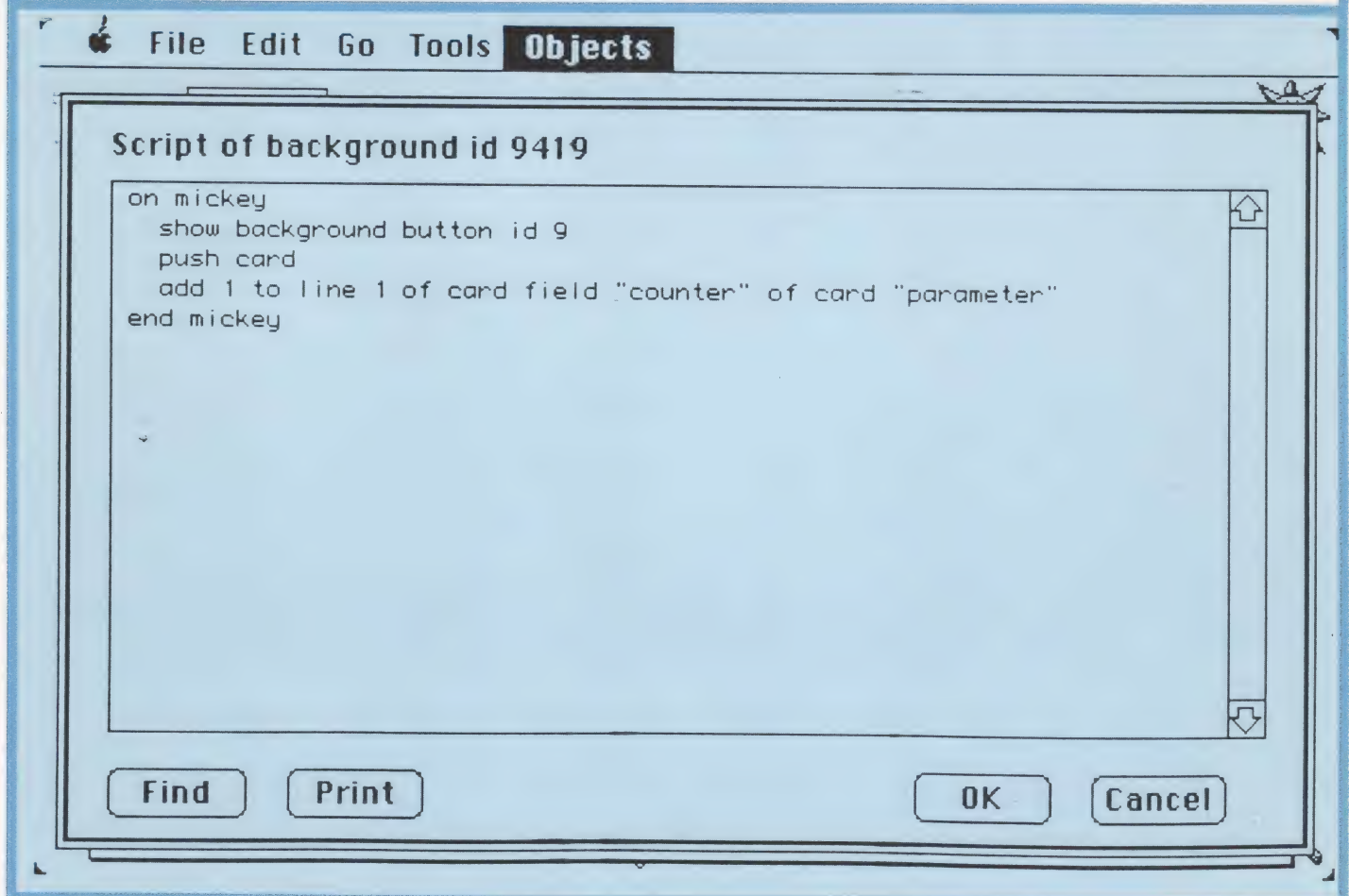
**Go to the county cards background script**

**Insert the "show" command as shown below**

**Click OK**

**Follow an itinerary to test the command**

The button should be visible for the return.



## 10. A Highway Itinerary

### A Global Variable

## HyperCard

You have seen that you can use the line of a field as a variable. You have also used the HyperTalk local variable (it) in the counter test (if). The only parameter for the global command is any name you wish to assign to variables. You're going to use a global variable instead of the field line to activate the count of the number of cards used in a trip up the highway. This counter needs to be on card and background level. HyperCard gives you access to global variables whose contents are accessible by any procedure in the stack. Unlike local variables whose contents are no longer remembered once the procedure ends. When you use global variables, you need to declare them as such (here, global minnie.)

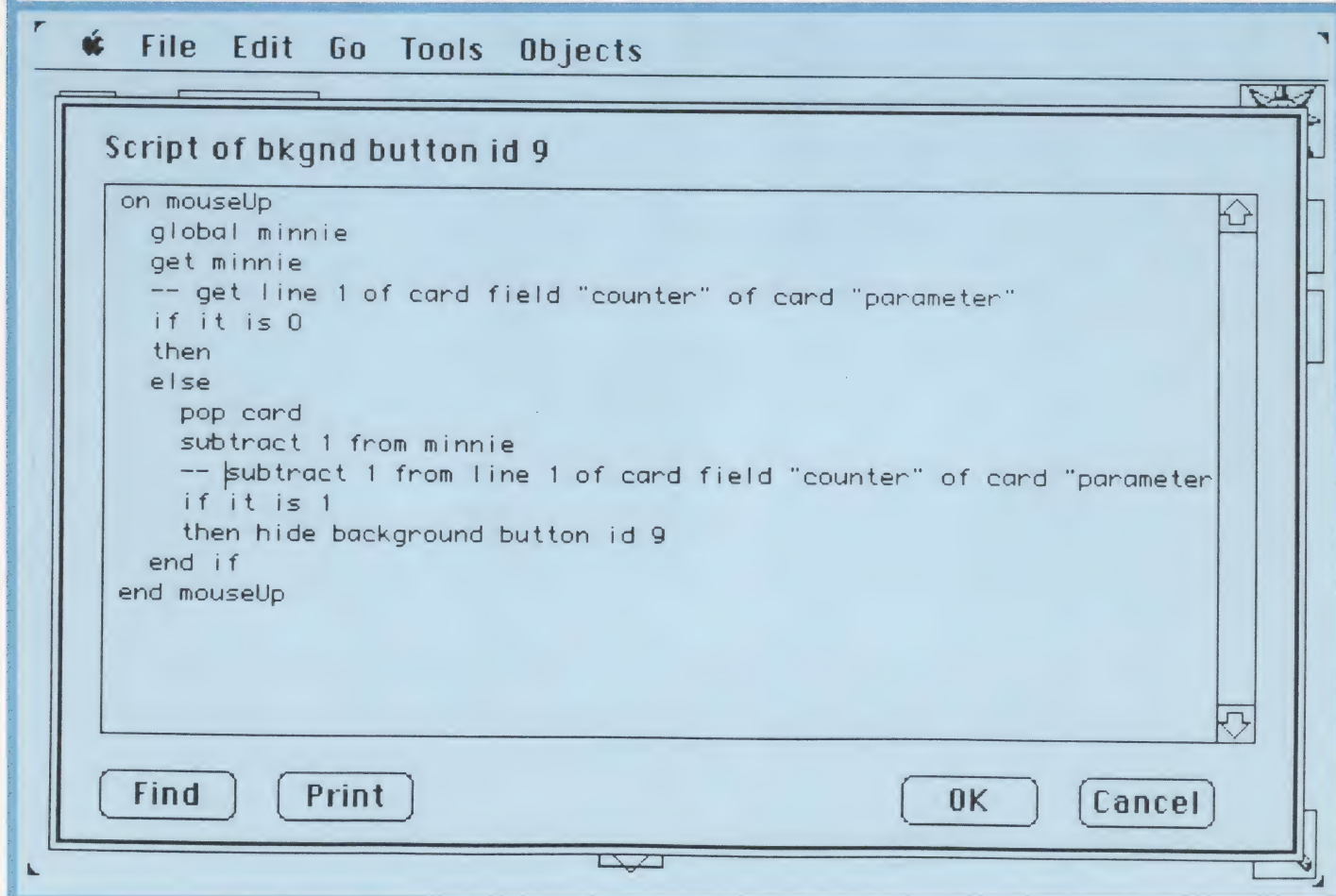
Replace the instructions using the line 1 of the Counter field with those using the global variable "minnie." Don't delete the instructions, but make them into comments to keep the procedure easy to read.

**Go to the Marker Cross button script**

**Type the instructions shown below**

**Type two hyphens followed by a space in front of the previous instructions to change them into comments**

**Click OK**





Make the same changes to the "mickey" procedure written on the background of the county cards. Type the new instructions using the global variable "minnie" and change the instructions using the counter field into comments.

**Go to the county card background script**

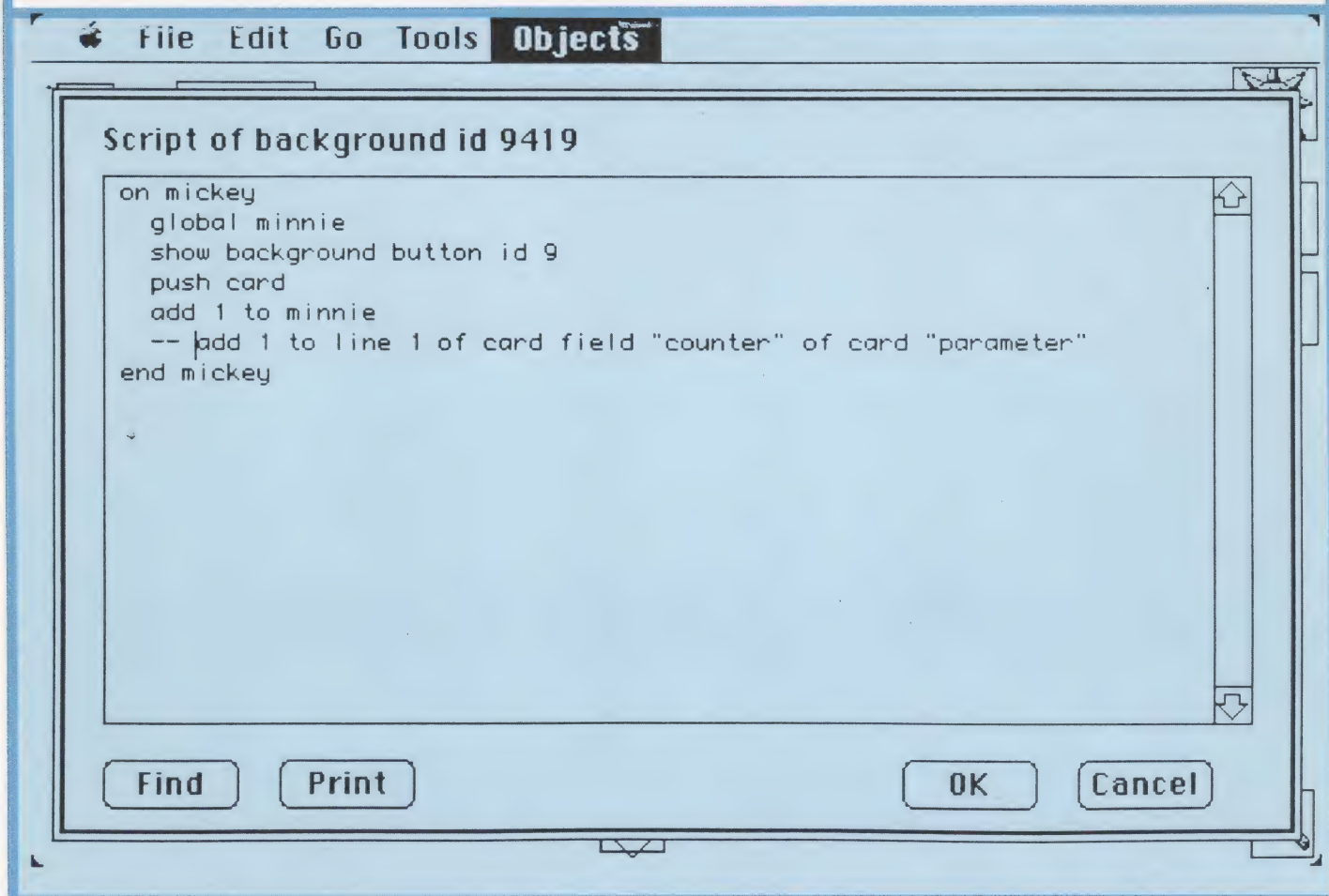
**Type the instructions shown below**

**Type two hyphens followed by a space in front of the previous instructions to change them into comments**

**Click OK**

**Choose Browse mode and test the scripts**

This time the parameter card was not used.



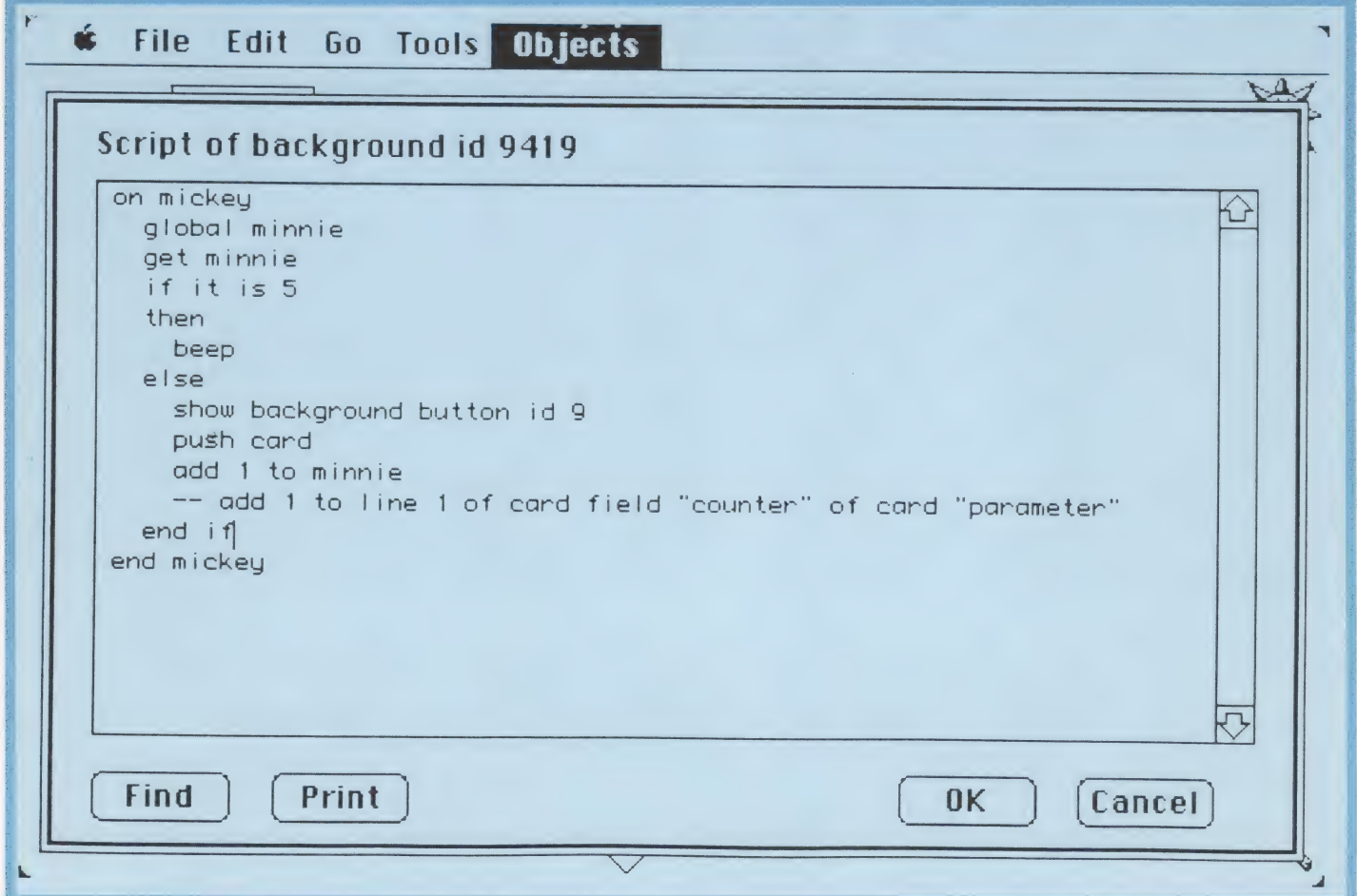
## 10. A Highway Itinerary

### Testing the Number of Marked Cards

## HyperCard

HyperCard will memorize up to 20 cards marked by the push command. Therefore, the number of cards pushed also needs to be tested, since if there are more than 20, they will not all be memorized. For the purpose of this example, you're going to artificially limit the number that may be pushed to 5 cards, by adding a "beep" command to the county cards background script. Once 5 cards have been memorized, a beep from the Macintosh will warn the user.

Go to the mickey procedure script  
Add the instructions shown below  
Click OK

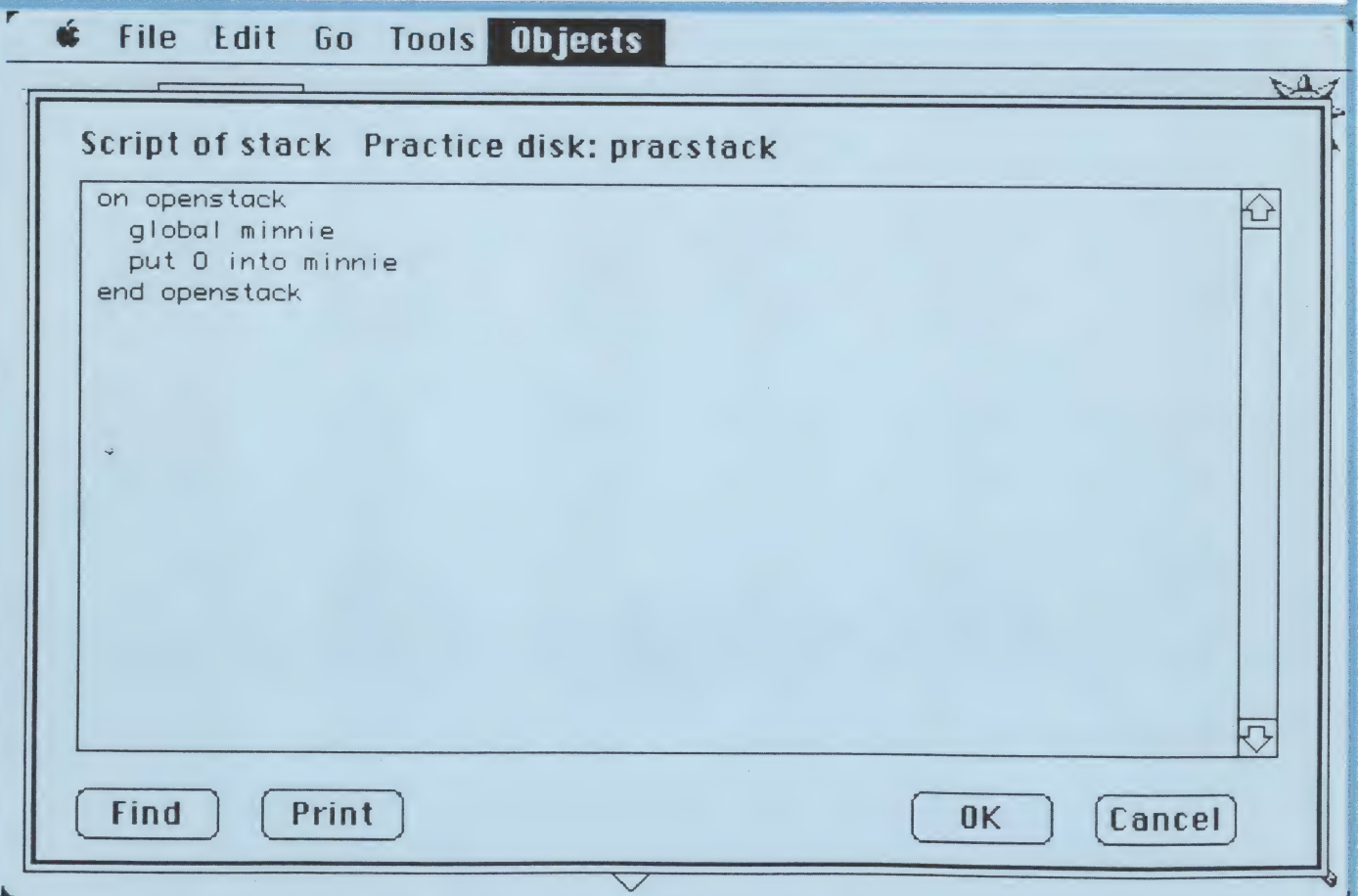




You set the counter to zero manually in the counter field. This counter is now in the global variable minnie.

You want to automate this initialization procedure. Each time the stack is opened, the variable minnie is set to zero. This instruction will be placed at stack script level and will be activated when the stack is opened (on openstack).

Choose **Stack Info...** from the **Objects** menu  
Type the instructions shown below  
Click **OK**



## 10. A Highway Itinerary

### Testing the Application

## HyperCard

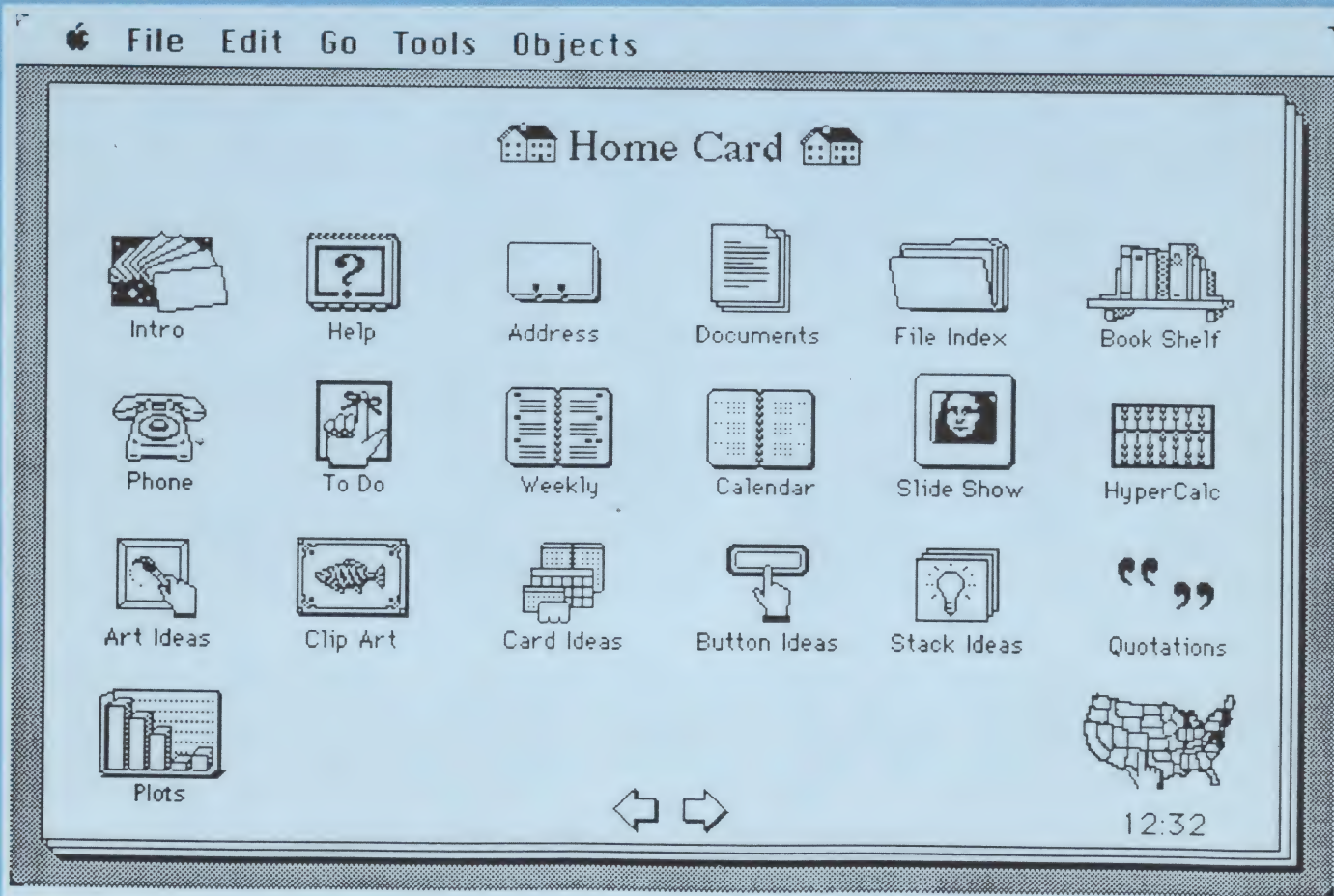
To close and re-open the Pracstack stack, go back to the Home card. Then, follow a highway itinerary and return by the same route using the Marker Cross button. Remember that if this button does not appear on the screen, use the highway arrow buttons to display it. These are, in fact, the buttons which call up the procedure designed to push cards, hide and show the Marker Cross button, limit the number of pushed cards to 5, and increment the counter.

**Choose Home from the Go menu (Command-H)**

**Click the Pracstack icon button**

**Test the existing application**

Don't forget to use the highway arrow buttons if the Marker Cross button is still hidden.





Copy/Pasting the Pop Field  
Copy/Pasting the Text Field  
Error in the Pop Field Script  
Adding to the Description Field  
An Eye Icon Button  
The Eye Button Script  
The Display Script for the Cards  
Testing the State of a Button



show background field "Pop"  
show background field "Text"

Pop:	
Area:	



hide background field "l"  
hide background field "t"

## 11. An Optional Display Field

### Copy/Pasting the Pop Field

## HyperCard

You want to calculate the density of population by county. You can use the calculation that was made for the cards Mexico and Guatemala and transfer it onto the county cards. Name the field that displays the card name "Description" and then copy/paste the fields Pop and Text from the country cards to the county cards. You can only select one field at a time - start with Pop.

Choose Field mode

Name the field on the top left of the screen "Description"

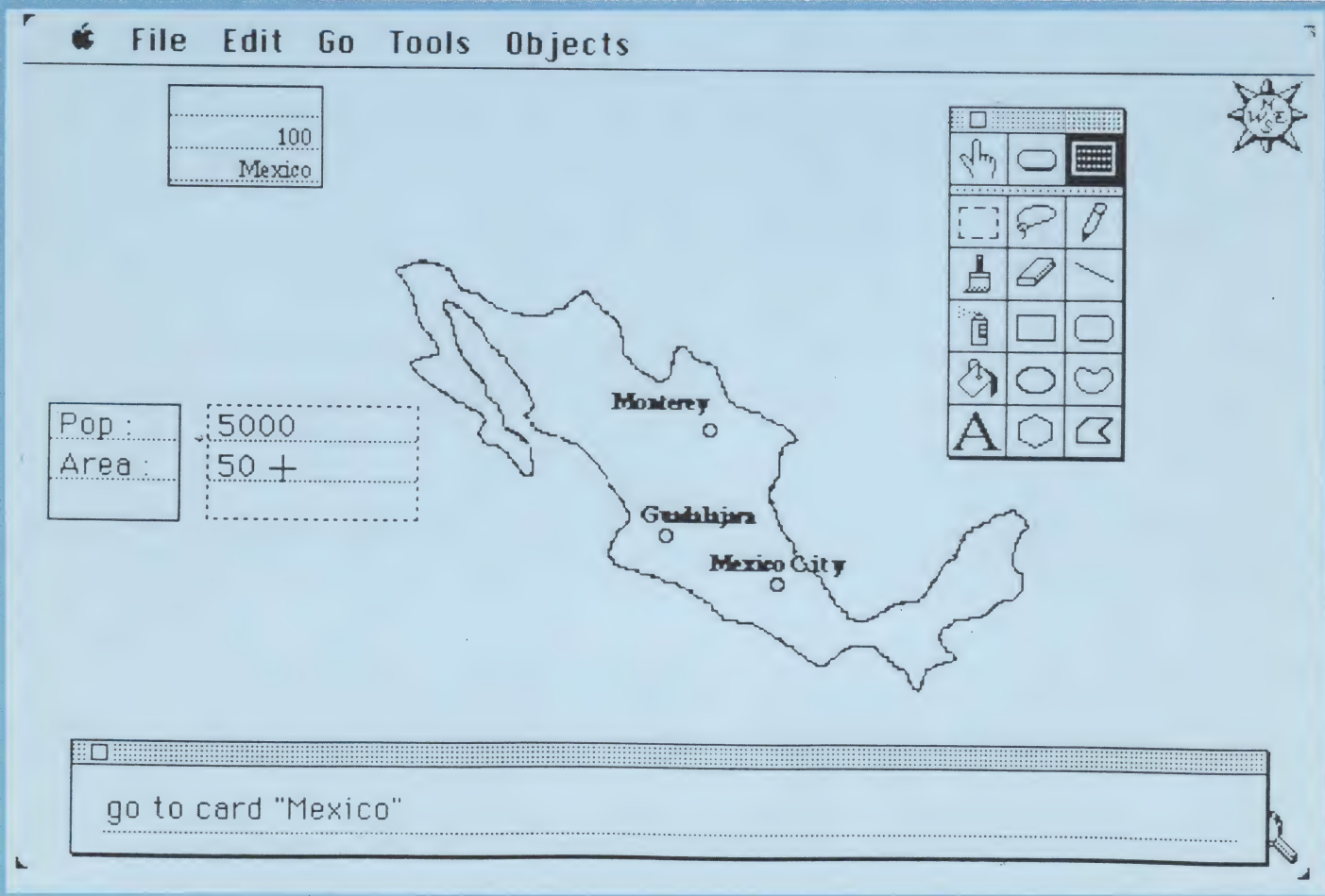
Go to the card Mexico (by the Message Box)

Copy the field Pop

Return to one of the county cards

Choose **Background** from the **Edit** menu (Command-B)

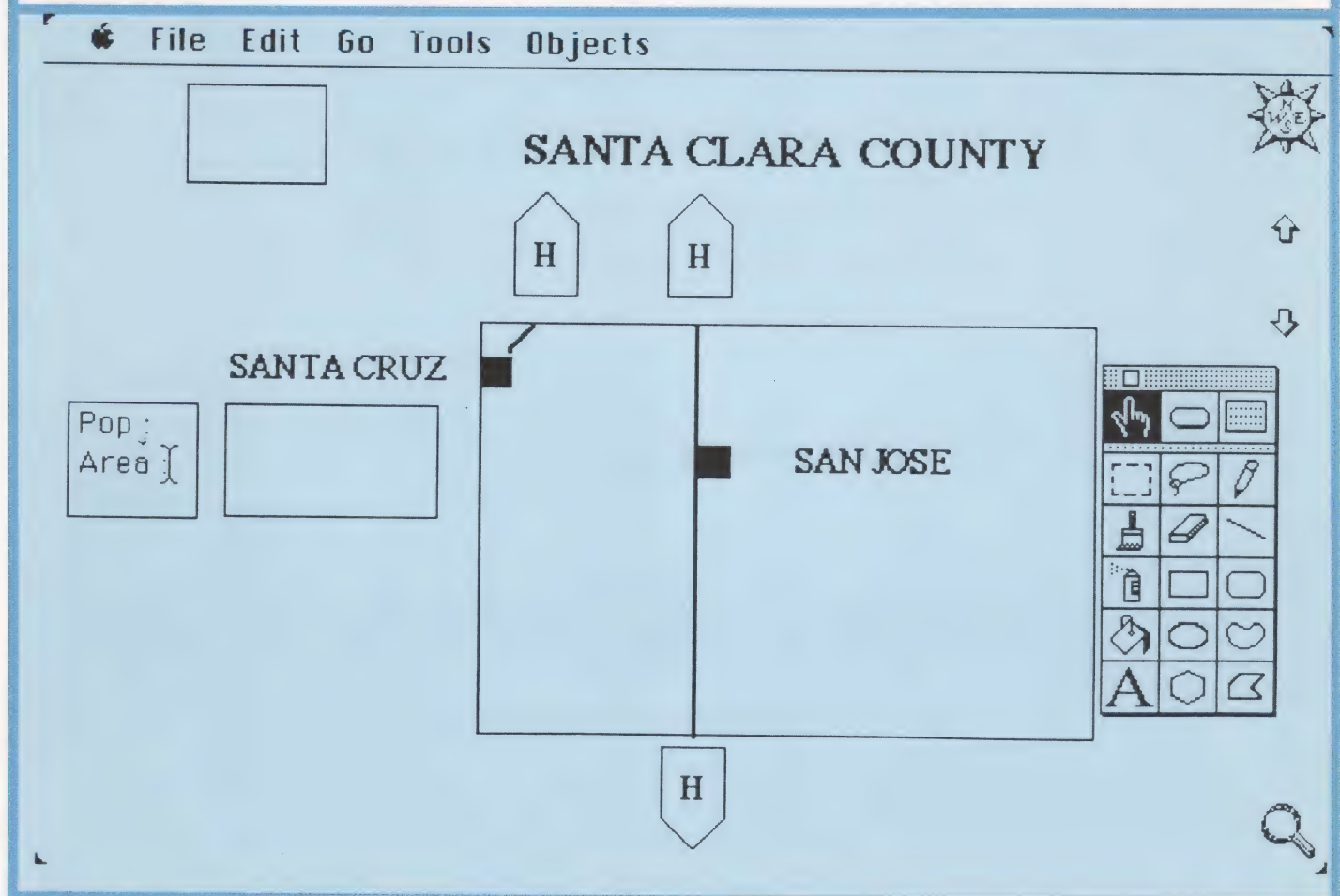
Paste the field Pop





Transfer the field Text which contains the labels also to the background. Since you can't enter text on the background layer, copy/paste the field on each card and type the text in Browse mode.

Go to the card Mexico and copy the field Text  
Paste it on the county cards background  
Choose Browse mode  
Enter the labels (Pop and Area) and Copy/Paste them on each card



## 11. An Optional Display Field Error in the Pop Field Script

## HyperCard

When you copy/pasted the Pop field, all the properties of the card field were transferred: field type, size, font, and script. Therefore, when you try to confirm the entry of text in this field, HyperCard will display a message telling you that no card field named Pop can be found. You need to change the field name in the Pop field script from card field to background field (you can use the abbreviation bkgnd). Fields, be they on background level or card level look the same on the screen, but to HyperCard are two totally different objects.

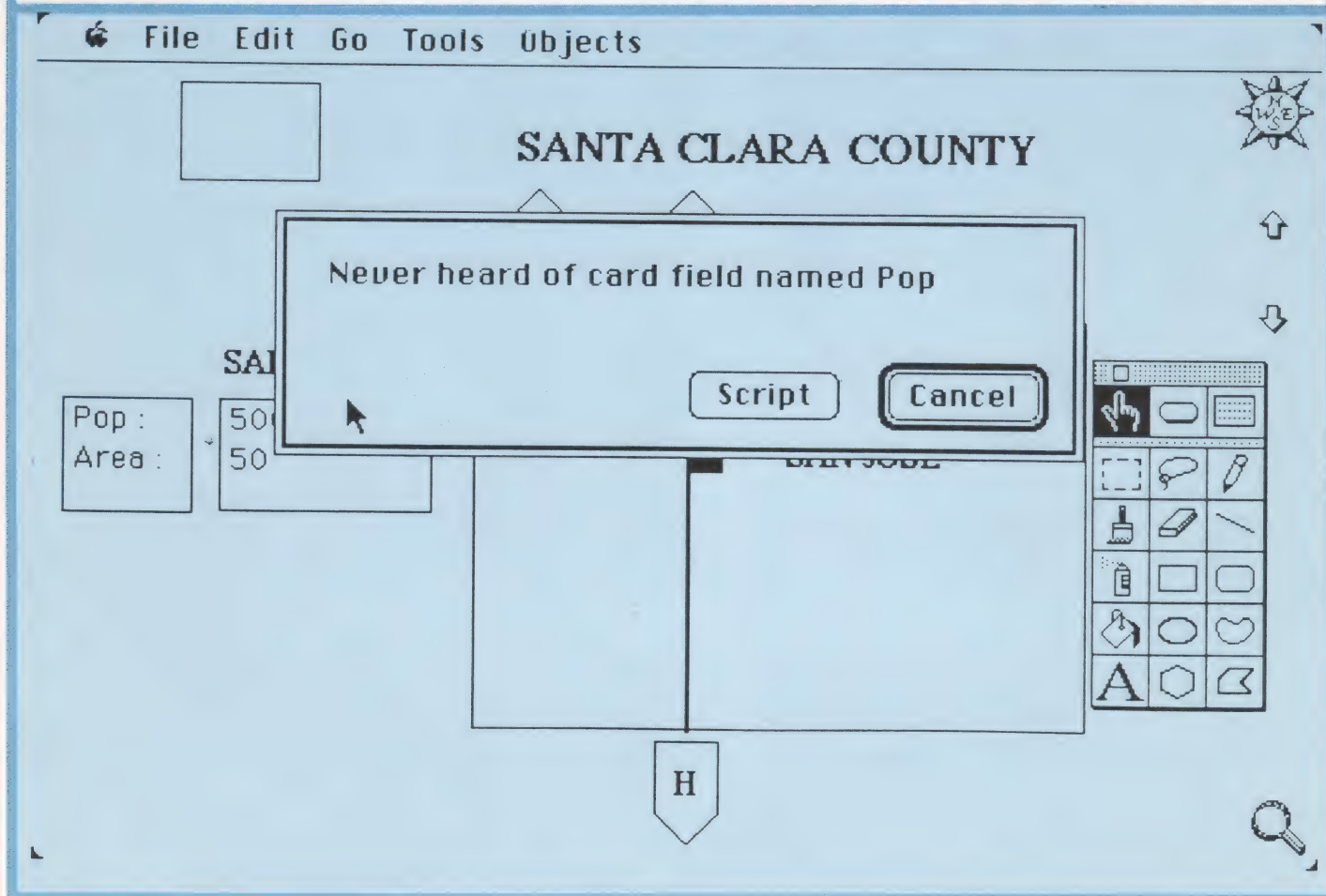
Enter the information in the Pop field and press Enter

At the error message, click **Script**

Change the name of the field Pop from card field to bkgnd field

Click **OK**

Choose Browse mode to test the calculation



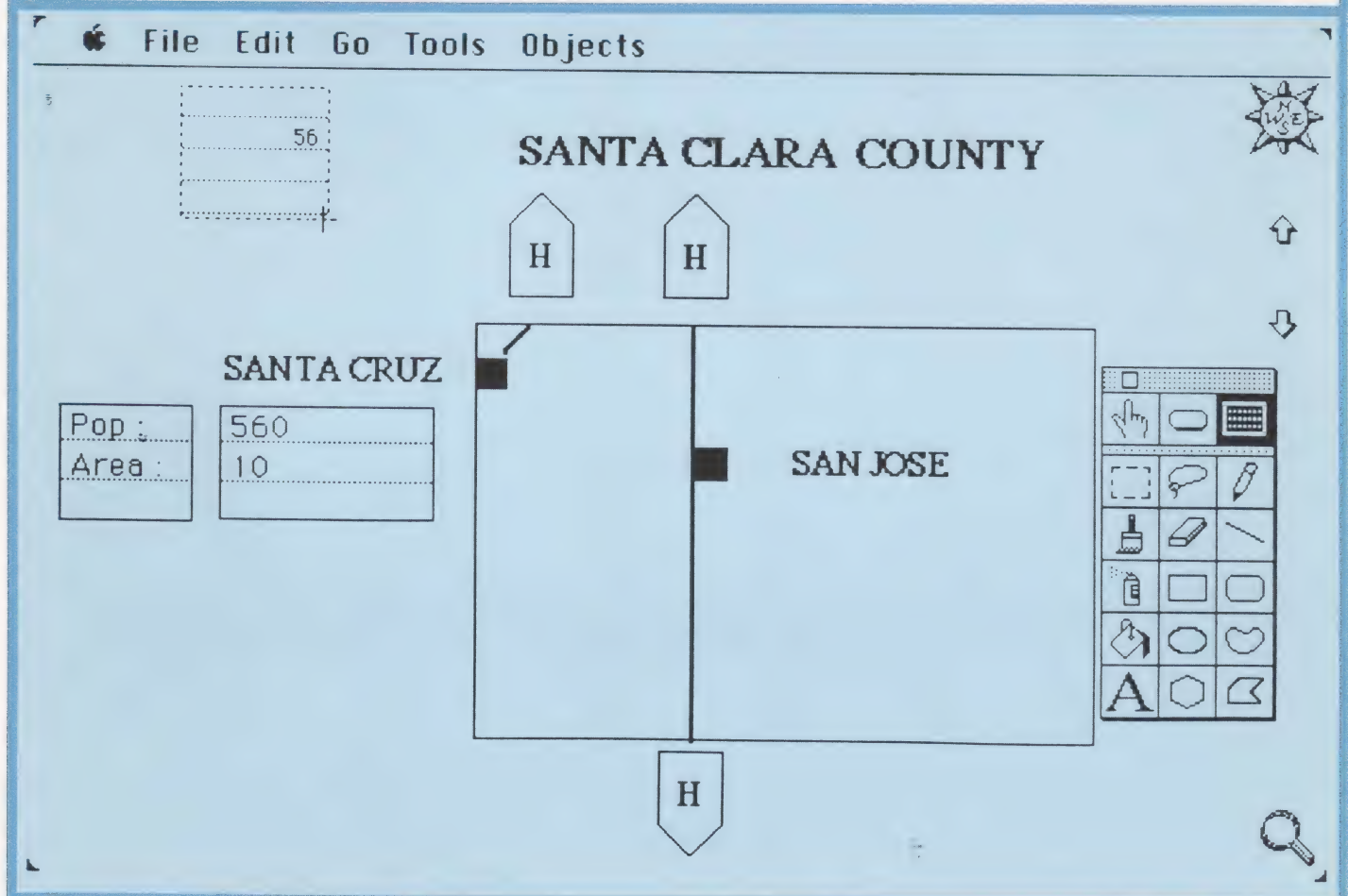


You want the fields Text and Pop to be shown only on demand. You're going to create an optional display procedure by placing on each card an indicator that will control the display of these fields. You'll also need a button to change the value of the indicator.

Create a fourth line in the Description field to house this indicator. (You can add lines to fields like this at any time while modifying a stack- HyperCard can handle fields of variable sizes and changes made to them).

Choose Field mode

Click and drag the Description field to add a line



## 11. An Optional Display Field

### An Eye Icon Button

## HyperCard

You need a button which will allow you to switch the display on and off by changing the value of the indicator. If the indicator is at 1, the fields Pop and Text will be displayed. If the indicator is at 0, the fields will be hidden.

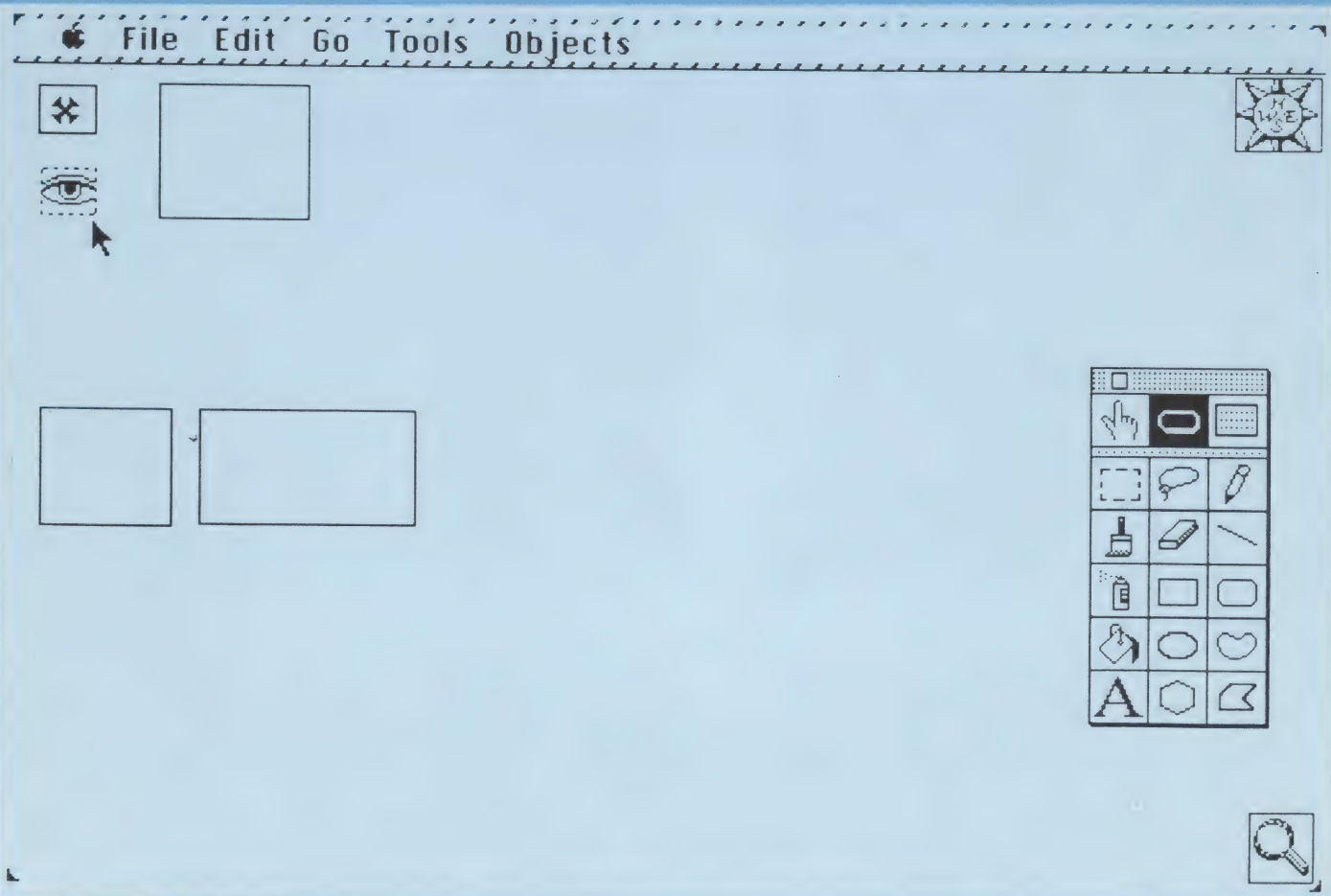
Create a background-level, transparent button with no name and copy the "eye" icon onto it from the icon catalog.

**Choose Button mode**

**Go to the background of the County cards**

**Create a transparent button with an eye icon**

**Position the button beneath the Marker Cross**





If the background fields Text and Pop are displayed (1) when the eye icon button is clicked, then hide the fields (0), and vice versa.

Write the button script shown below.

Go to the eye button script box  
Type the script  
Click OK

File Edit Go Tools Objects

### Script of bkgnd button id 12

```
on mouseUp
  get line 4 of background field "Description"
  if it is 1
    then
      hide background field "Pop"
      hide background field "Text"
      put 0 into line 4 of background field "Description"
    else
      show background field "Pop"
      show background field "Text"
      put 1 into line 4 of background field "Description"
    end if
  end mouseUp
```

Find

Print

OK

Cancel

## 11. An Optional Display Field

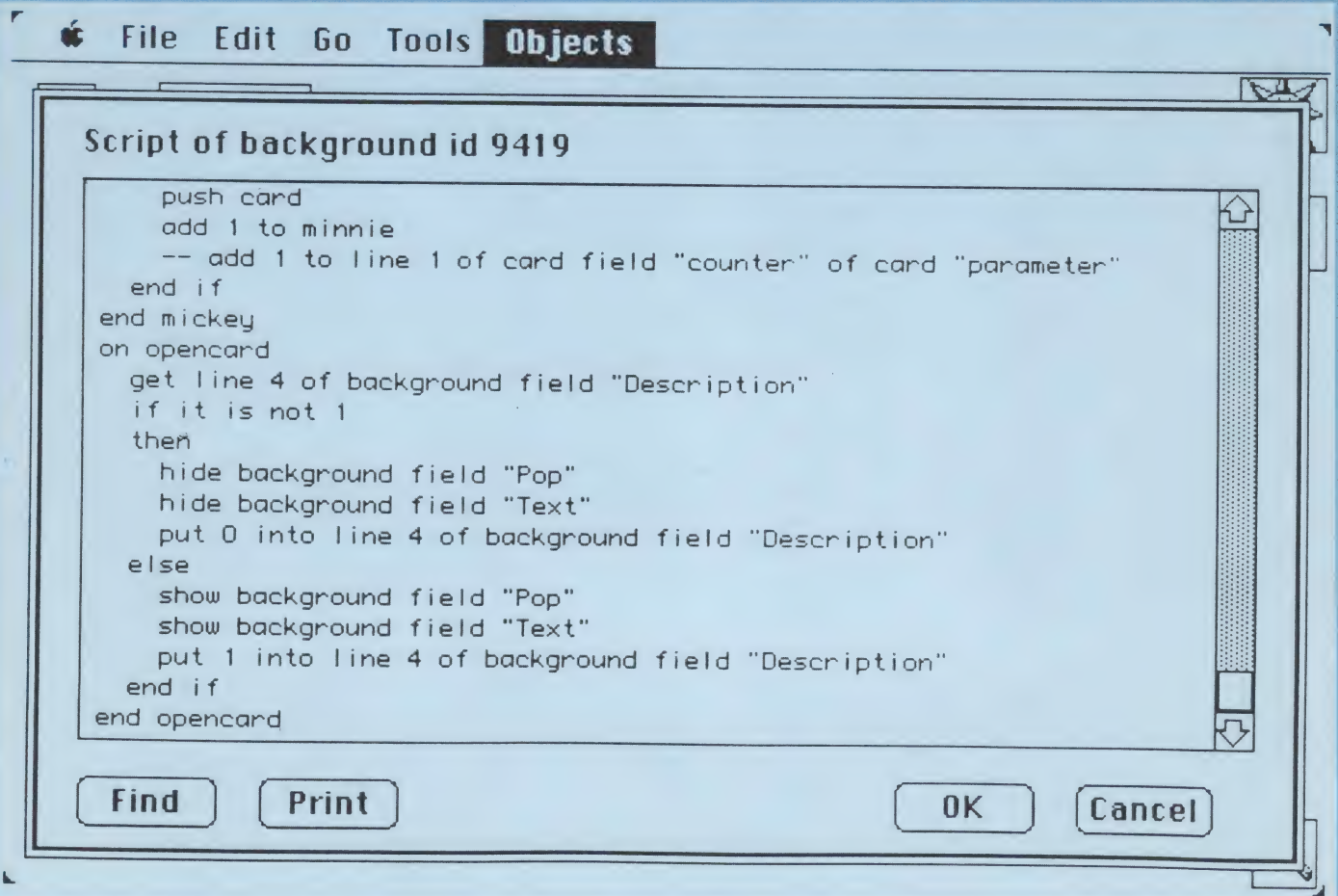
### The Display Script for the Cards

## HyperCard

Each time a county card is opened, HyperCard needs to know whether or not to display the background fields Text and Pop. Write the corresponding script, which is common to all the county cards, on the background layer. This script is almost identical to the eye button script you just wrote, except that the display condition is reversed; "if it is 1 then..." becomes "if it is not 1 then..." In fact, when a card is opened it must show the current state of display, whereas the Eye button reverses the current state of display.

Select and copy the Eye button script, paste it into the background script, and replace the condition "if it is 1" with "if it is not 1." When you copy/paste a script you don't have access to the commands in the Edit menu, so use the keyboard shortcuts Command-C and Command-V.

Select and copy (Command-C) the Eye button script  
(leave out on mouseUp and end mouseUp)  
Go to the end of the county cards background script  
Press Command-V to paste  
Add on opencard and end opencard as shown below  
Change the if conditions  
Click OK





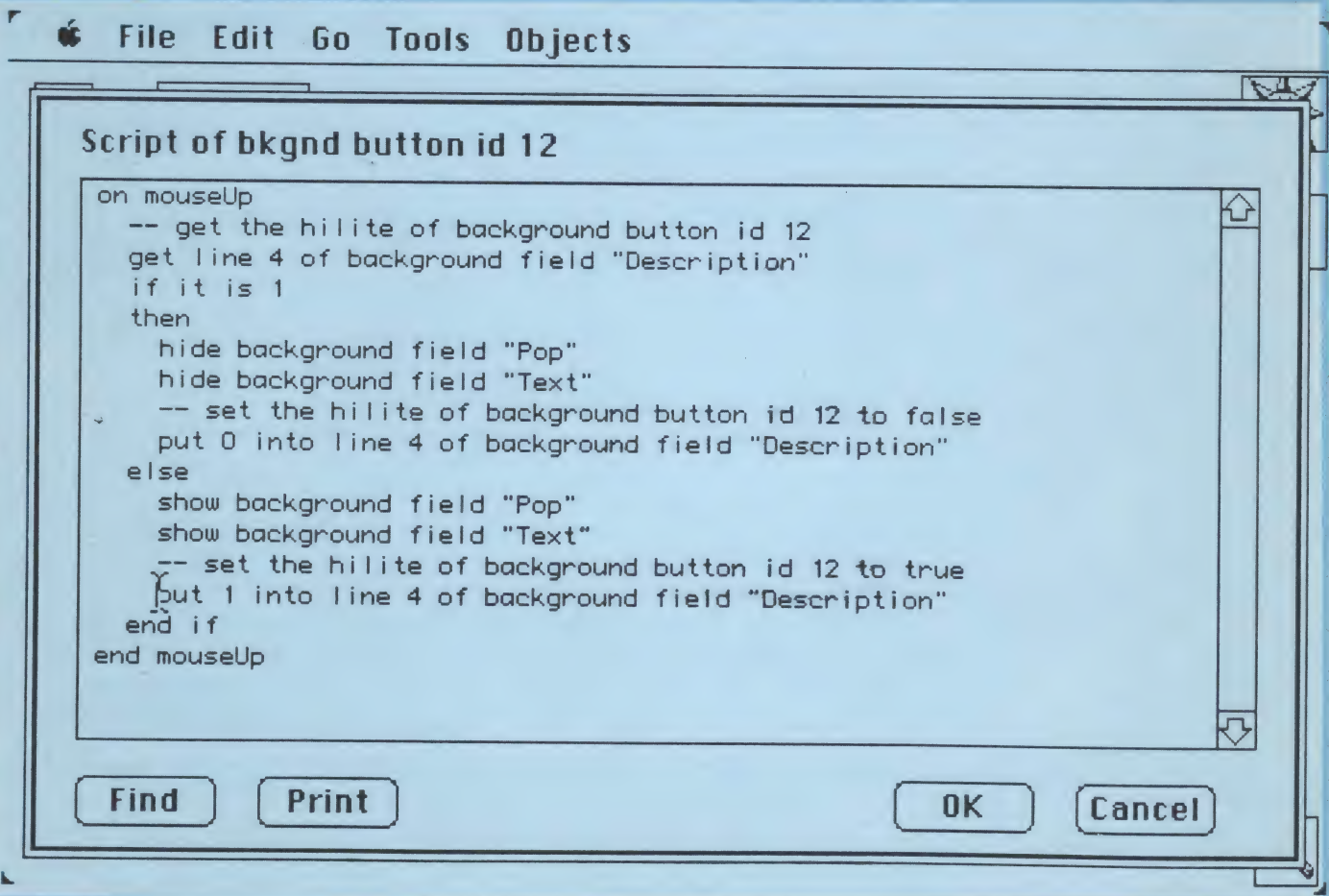
Use the Eye button to switch the indicator, close and then re-open the card to make sure the fields remain in the current state of display.

A button is a toggle switch with a "true" or "false" position. HyperCard lets you test the state of a button (hilite) and eventually modify it. You're going to write the script allowing you, not to test the indicator in the Description field, but the state of the Eye button. (This is the script shown below in the comment lines.) But in this case, a test on the Eye button will not work. It's a background button and is in a true or a false position for all the cards. But you want a special display for each card.

**Choose Browse mode and test the scripts you've just written**  
**Type the button test instructions shown below**  
**Put the instructions for line 4 of background field "Description"**  
**in "comment" lines (with hyphens and a space)**  
**Test the script**

The display is the same no matter which card and no matter what the state of the indicator in the Description field. Then you will revert to the previous instructions.

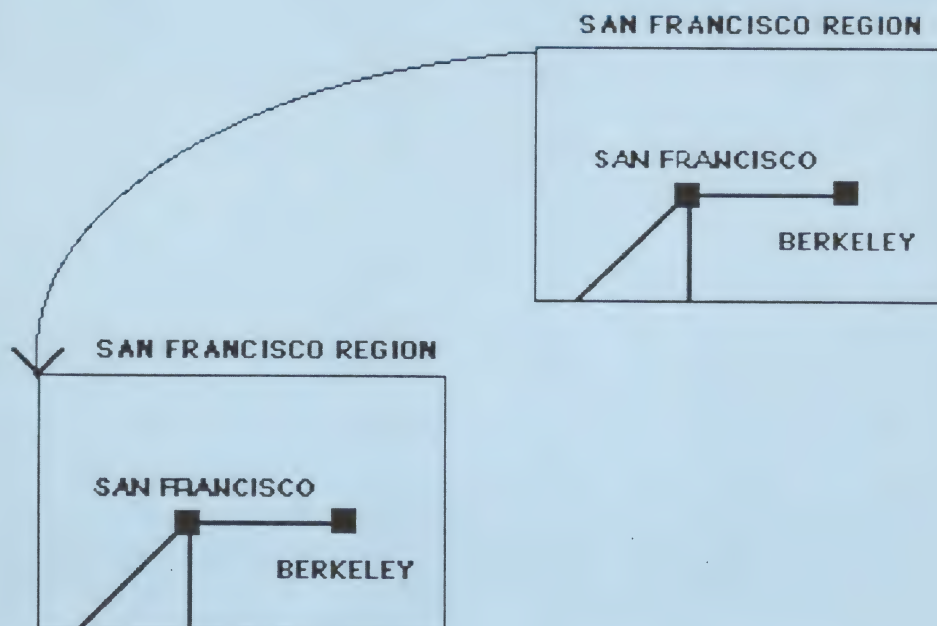
**Put the instructions you've just inserted in "comment" lines**  
**Delete the hyphens of the instructions in "comment" lines**



# HyperCard



- A Simulation Button
- The Simulation Button Script
- The Starting Coordinates
- The Resulting Coordinates
- The Animation Button
- The User Levels
- Protecting the Stack
- Deleting a Password
- The Animation Button Script
- Sound Effects
- Copying a Prerecorded Sound



## 12. Animating a Picture

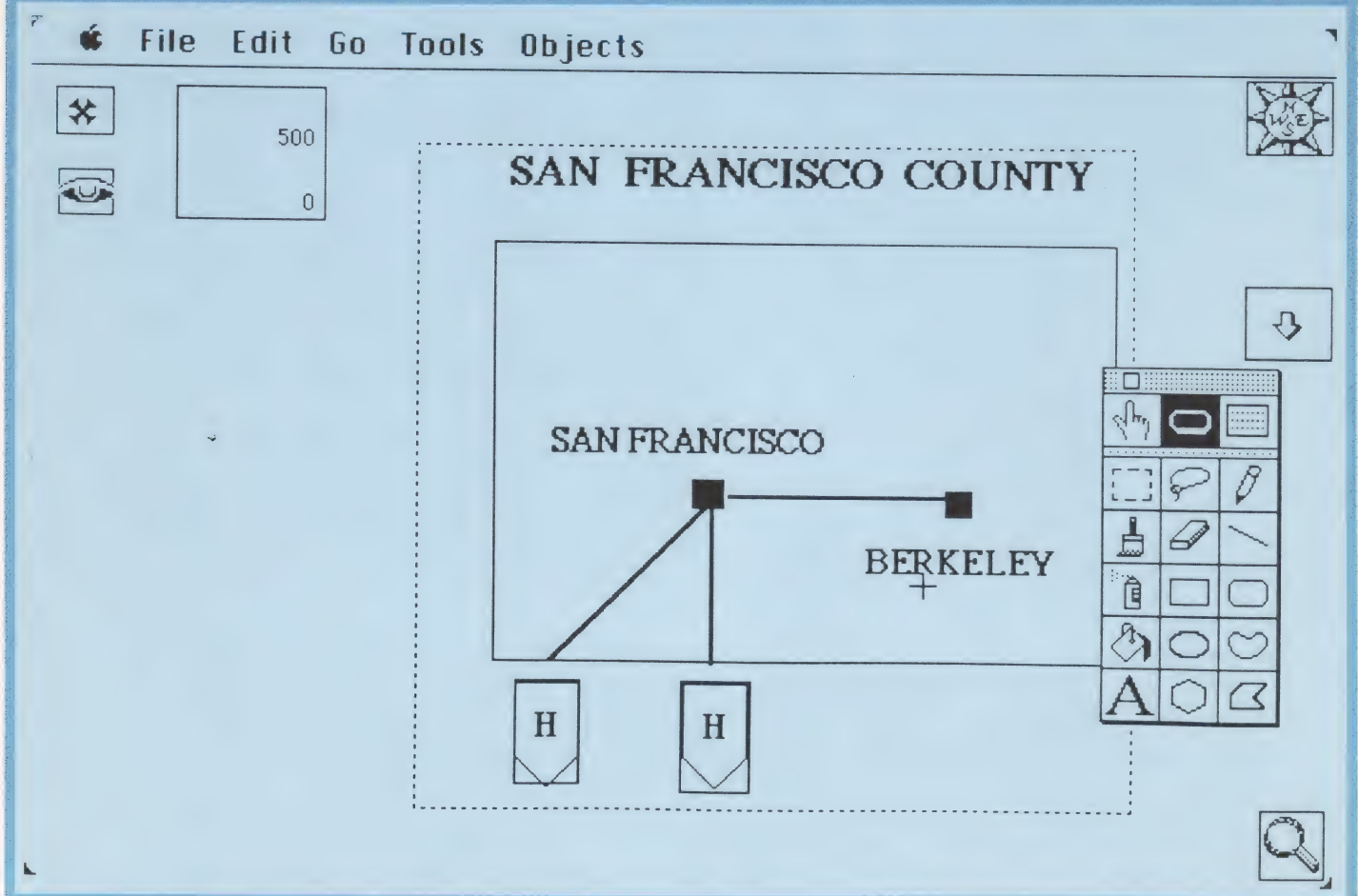
### A Simulation Button

## HyperCard

To enhance the display of your stack, you're going to add some audiovisual effects. You can, for example, create a button to move one of the card pictures around on the screen. To animate a picture on the screen, you need to know the coordinates of the object. You can find the location of a screen object with the HyperTalk "mouseLoc" function.

You're going to create one large, rectangular button the size of the map of San Francisco region and write the coordinates of the picture into the button script.

**Create a transparent, rectangular button covering the entire picture**

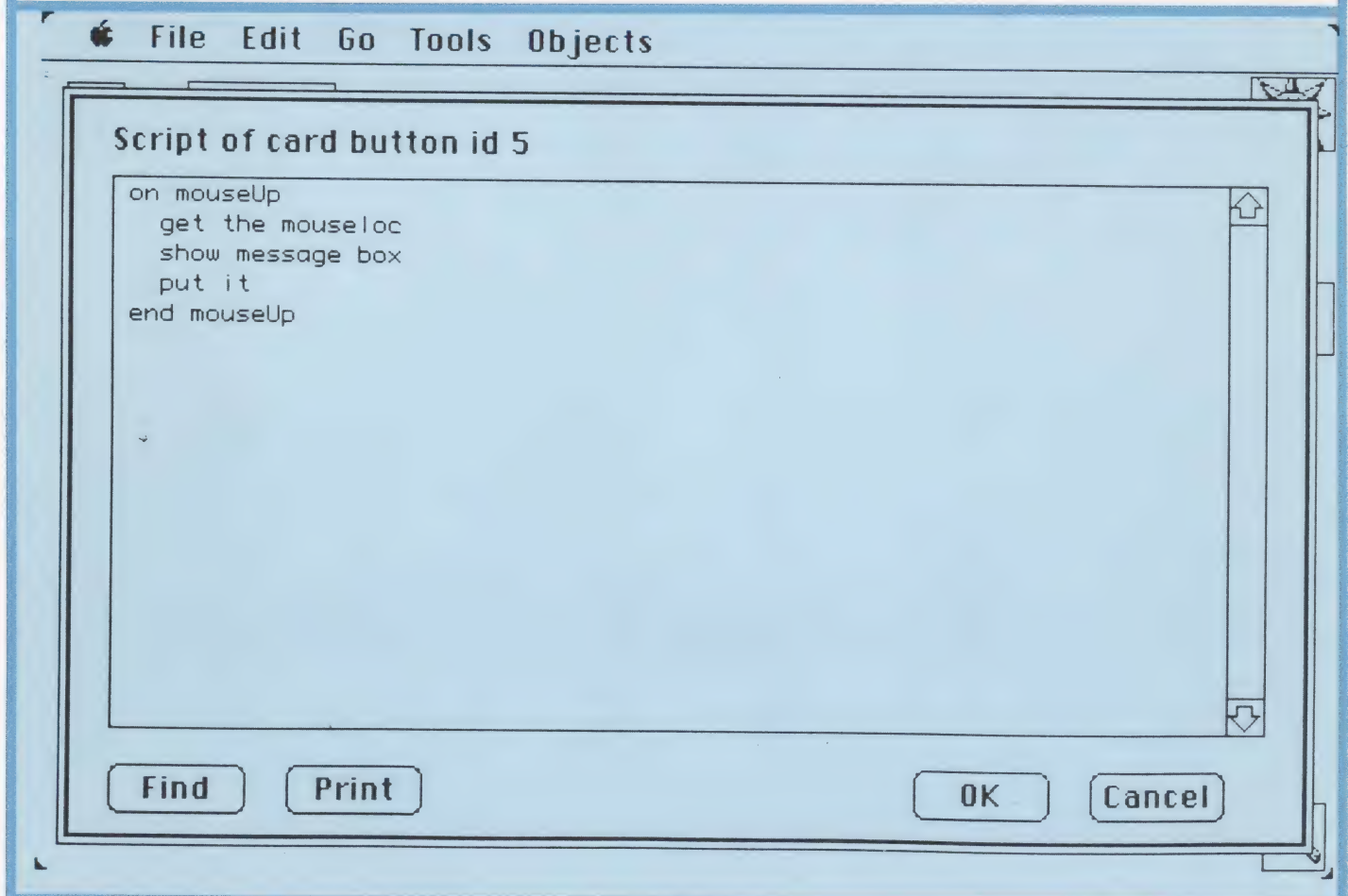




This simulation button will indicate the picture's coordinates at it's original position and at the position it is moved to. The Hypertalk function which lets you do this is "get the mouseLoc." This function returns the horizontal (mouseH), and vertical (mouseV) coordinates of the button and displays them in the Message box. You need to note down these coordinates as you'll use them in the animation button script a little further on in this chapter.

Now write the script which will find the location of the screen object, display the Message box, and put the coordinates in the box.

Go to the script of the button you've just created  
Type the script shown below  
Click OK



## 12. Animating a Picture

### The Starting Coordinates

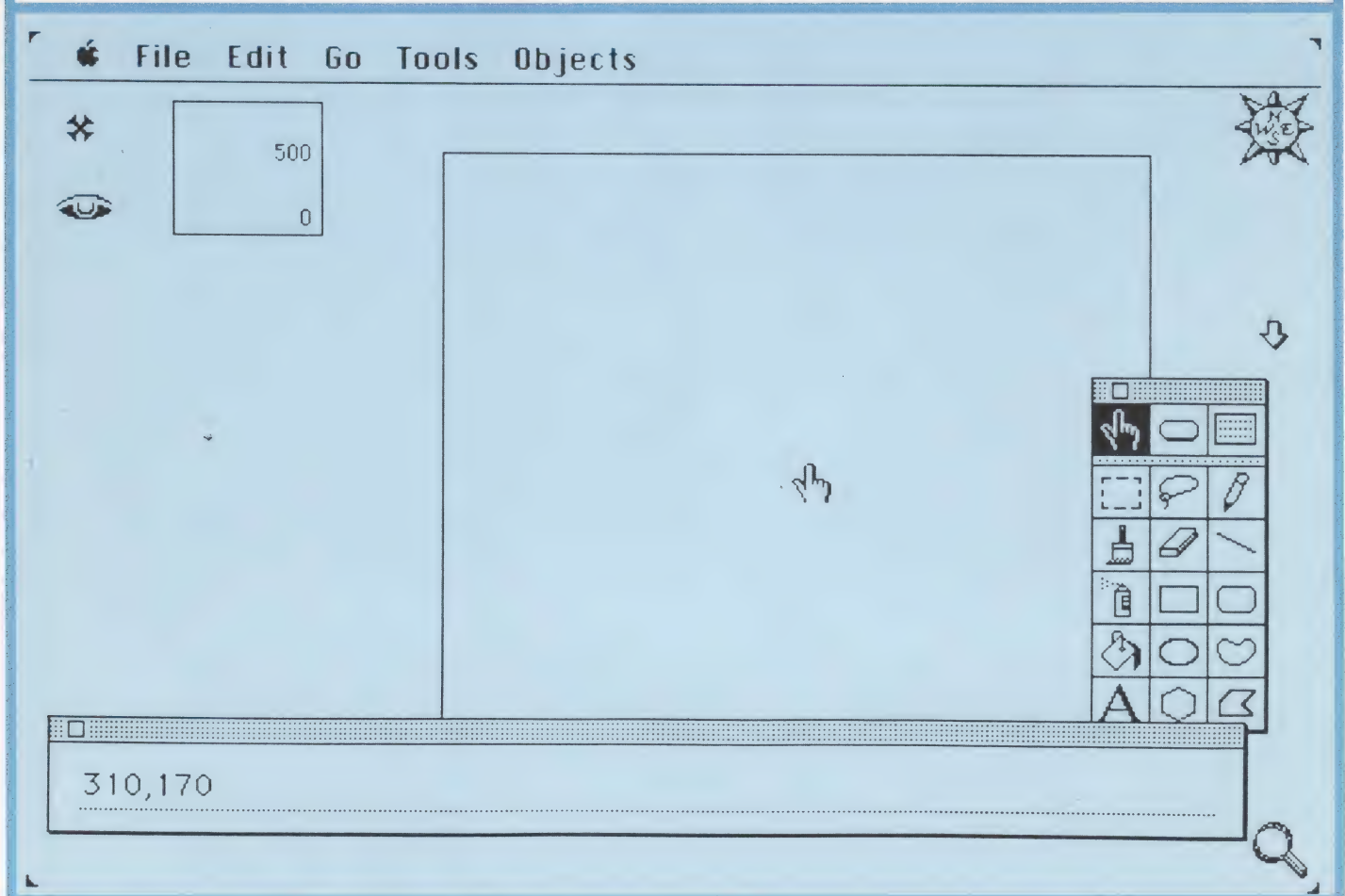
## HyperCard

The reference point for the “mouseLoc” function is the point of the Browse tool’s index finger. Click with the Browse tool in the center of the button to find its horizontal and vertical coordinates. These will then be displayed in the Message box (separated by a comma) for you to note down.

**Choose the Browse tool**

**Click the center of the button**

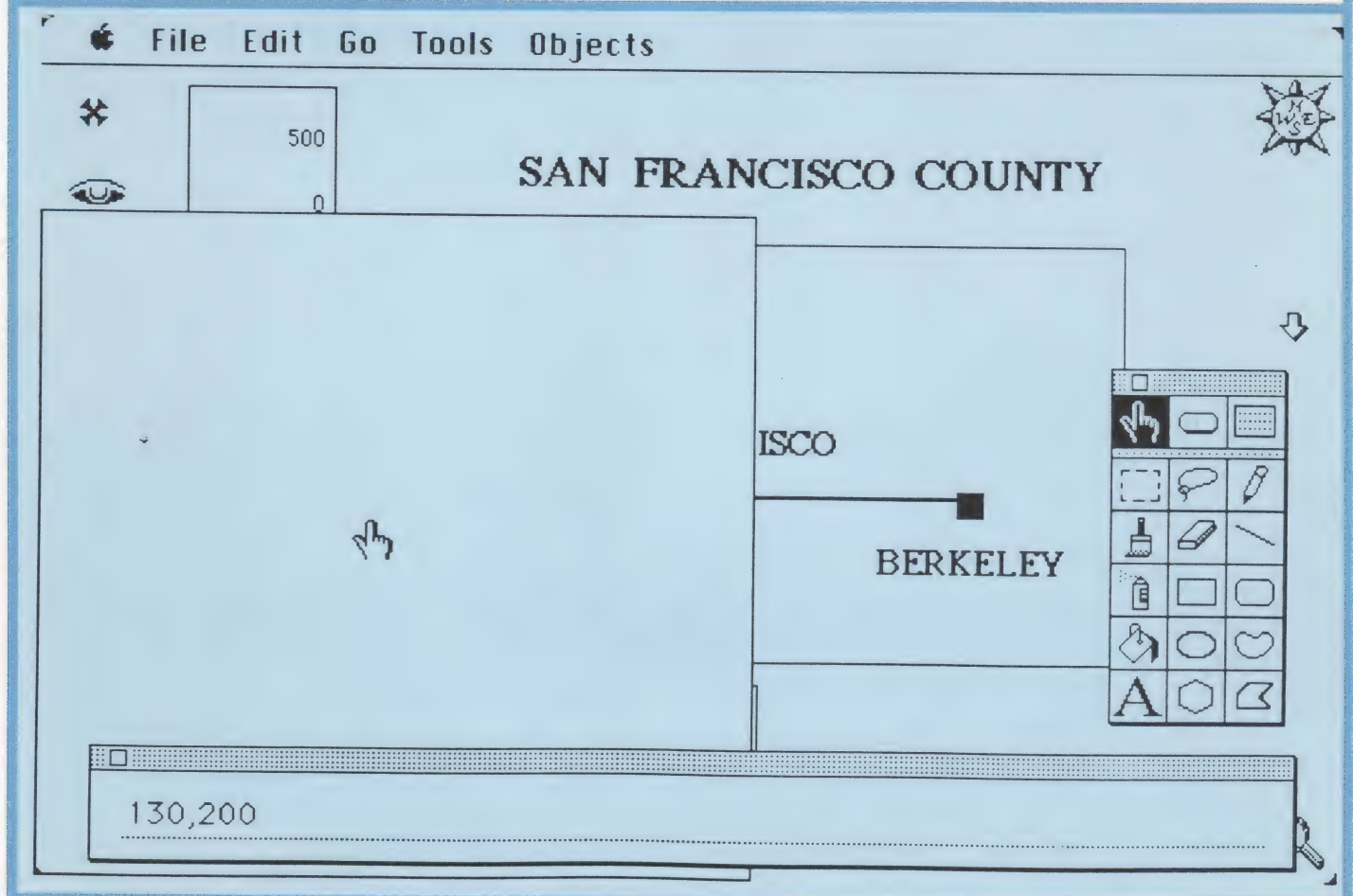
**Note the coordinates shown in the Message box**





You want the picture to move down to the left-hand corner of the screen. As you also need to know the coordinates of the simulation button when it's in this position, move the button into place and click in its center to note the new coordinates.

- Choose the Button tool
- Position the button in the left-hand corner of the screen
- Choose the Browse tool
- Click in the center of the button
- Note the coordinates of the new position
- Delete the simulation button



## 12. Animating a Picture

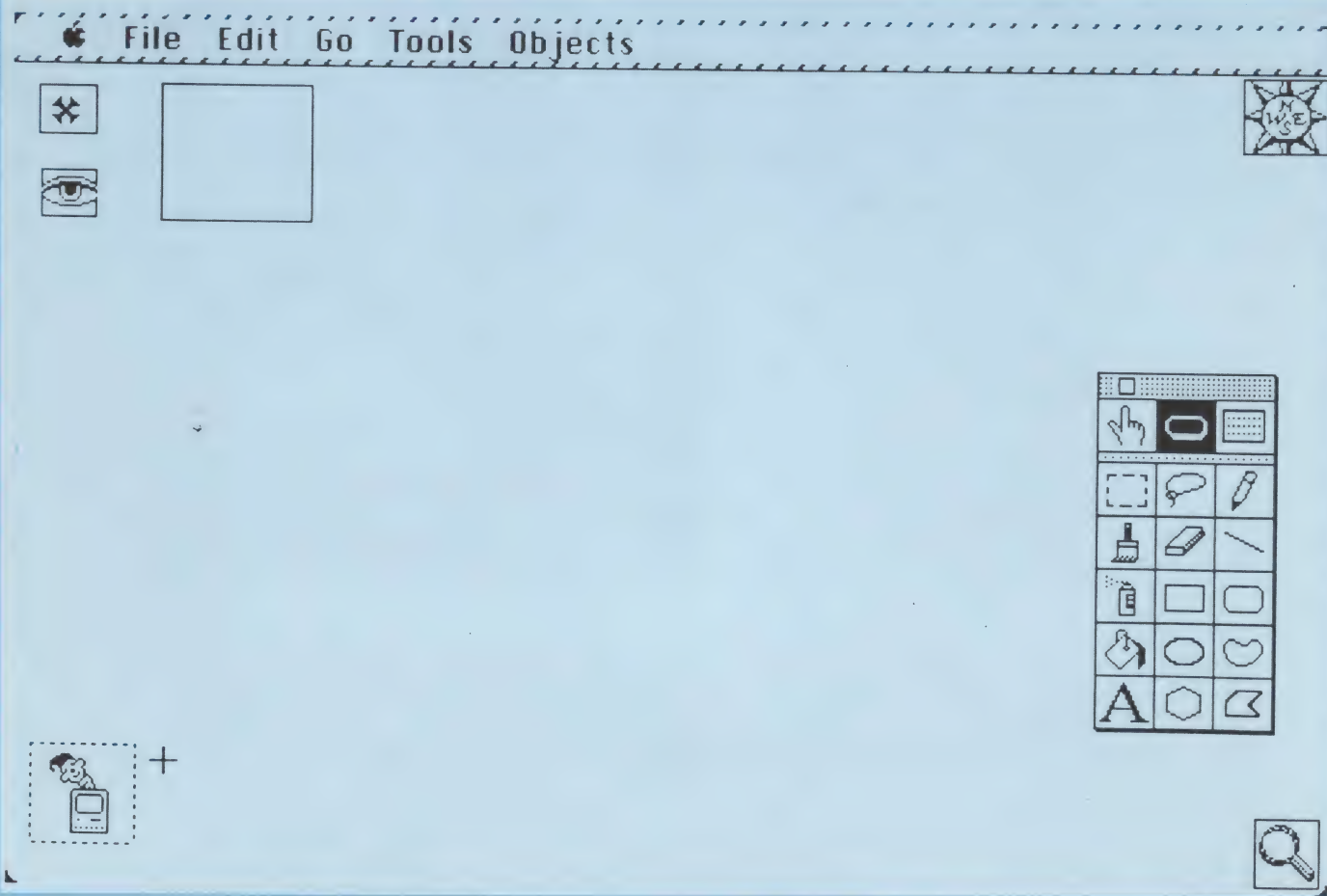
### The Animation Button

## HyperCard

Create a transparent button for the animation button and choose an icon which evokes the simulation (like the Jack-in-the-Mac below). Position it in the lower left-hand corner of the screen. HyperCard's scripting language, HyperTalk, lets you program the use of tools as well as menu commands. You'll write the script based on exactly what you do yourself; choose the Lasso tool, select the picture, drag it to the new position, then drag it back to its original place.

### Create a transparent button and choose an icon

Before writing the script of this button, take a look at the different HyperCard user levels described in the next few pages.



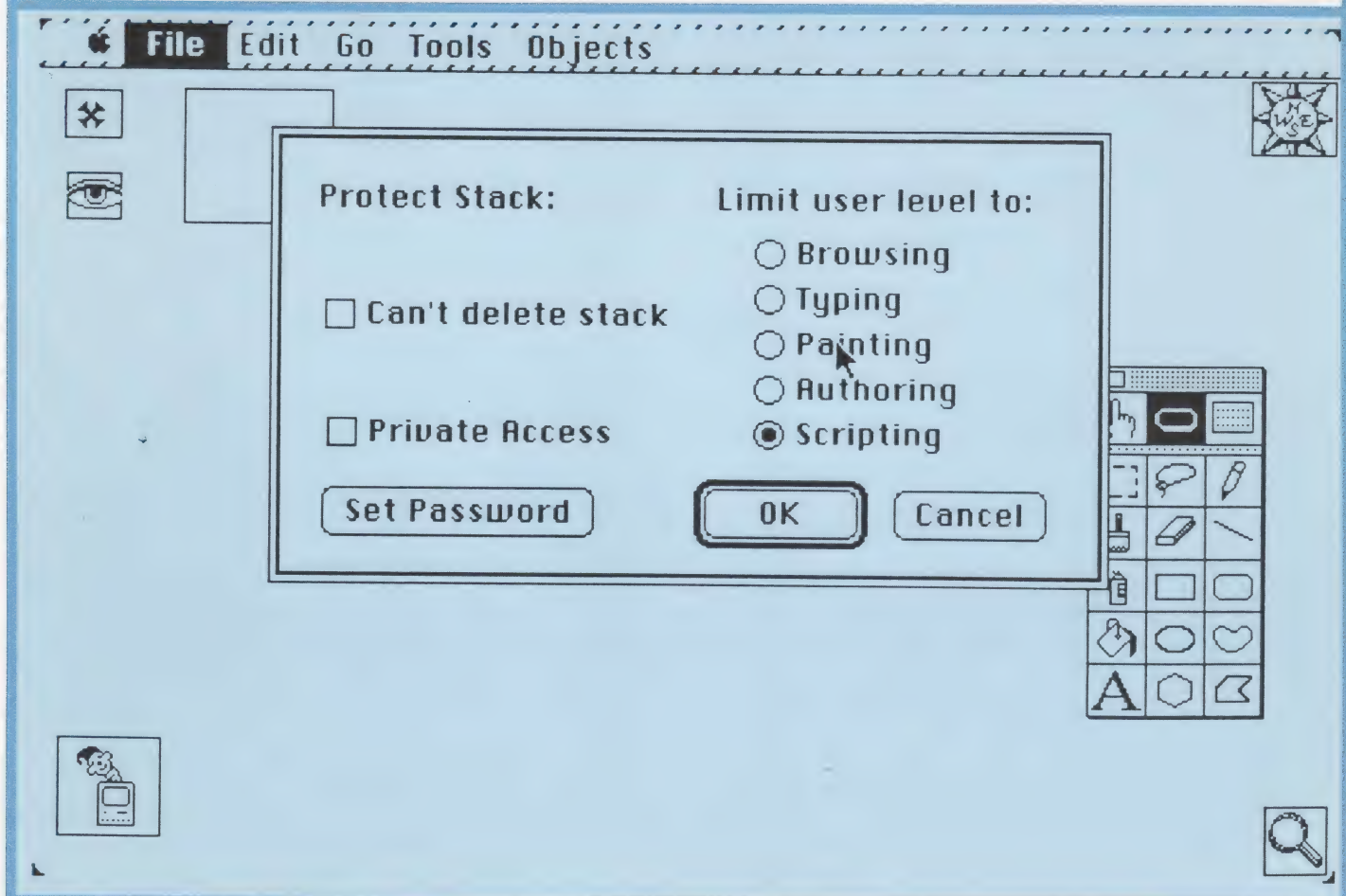


The HyperCard user can be a designer of stacks or simply one who uses stacks that are already created. The author needs to have access to all the powerful abilities of HyperCard, whereas the user needs to know very little about the inner workings.

As previously seen, HyperCard has 5 defined user levels which are set on the User Preferences card: Browsing, Typing, Painting, Authoring, and Scripting. A browser can use HyperCard for simple information storage and retrieval and enter and edit text at Typing level. At Painting level, the use of the Paint menu is added and access to Button and Field tools at Authoring level. Scripting level gives total freedom of action with access to HyperTalk scripts.

You can define the level at which a future user has access to your stack. You can also password-protect a stack or limit the way a user can change your stack.

Choose **Protect Stack...** from the **File** menu



## 12. Animating a Picture

### Protecting the Stack

## HyperCard

Select some of the user levels and see which features have limited access.

**Choose the Painting level**

**Try to get into Button or Field mode**

A small dialog box reminder appears.

**Choose **Protect Stack...** again**

**Choose the Authoring level**

**Click the **Private Access** check box and click OK**

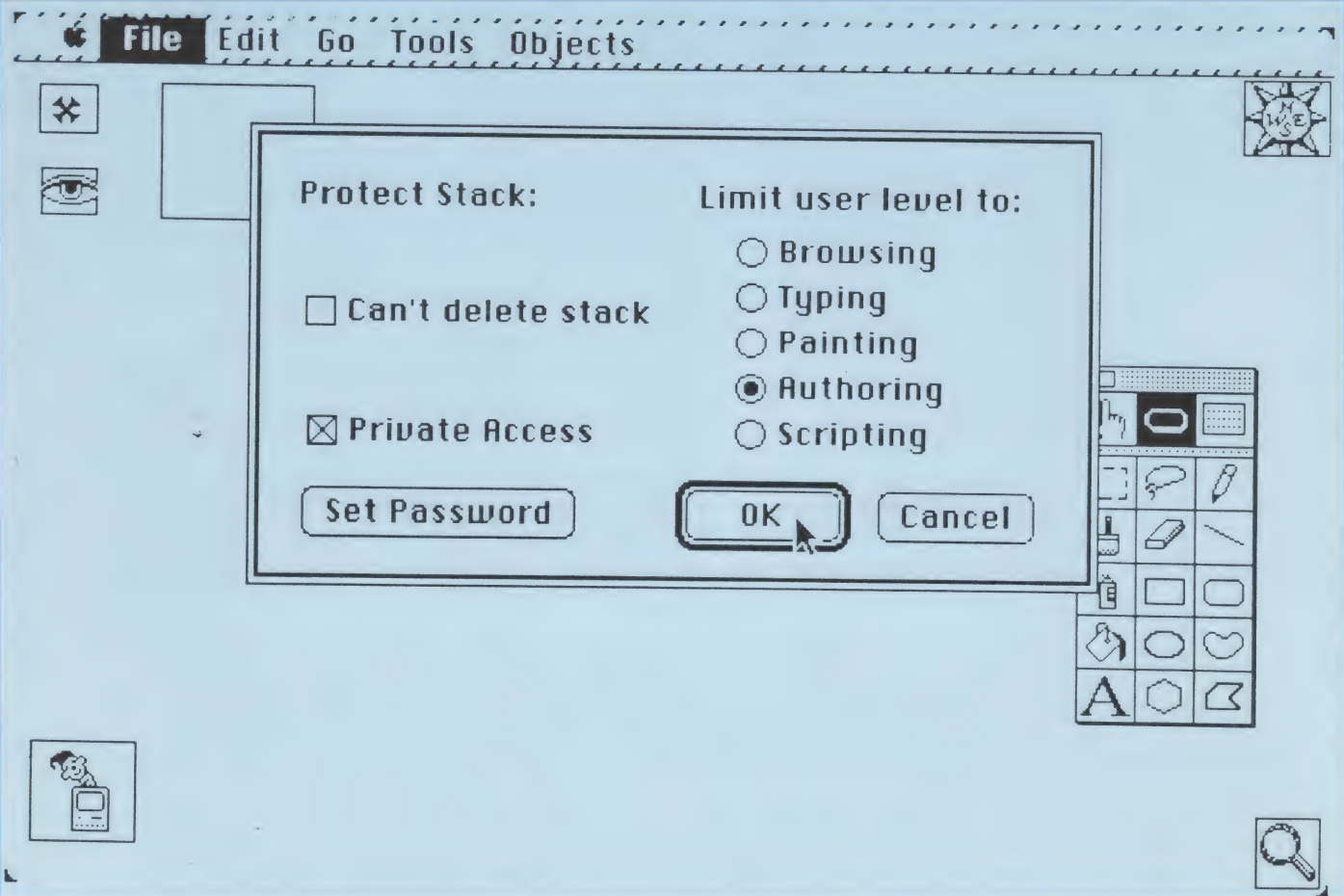
A dialog box appears where you type the password of your choosing twice.

**In both boxes type: pass**

You are at Authoring level and your stack is protected by a password. Everything is accessible except button, field, card, and background scripts.

Experiment with other levels.

**Careful:** If you find yourself at one of the first two levels, the Protect Stack... command is no longer available from the File menu. You will thus be blocked and unable to make adjustments. The trick is to hold down the Command key and pull down the File menu. The command will then be available.



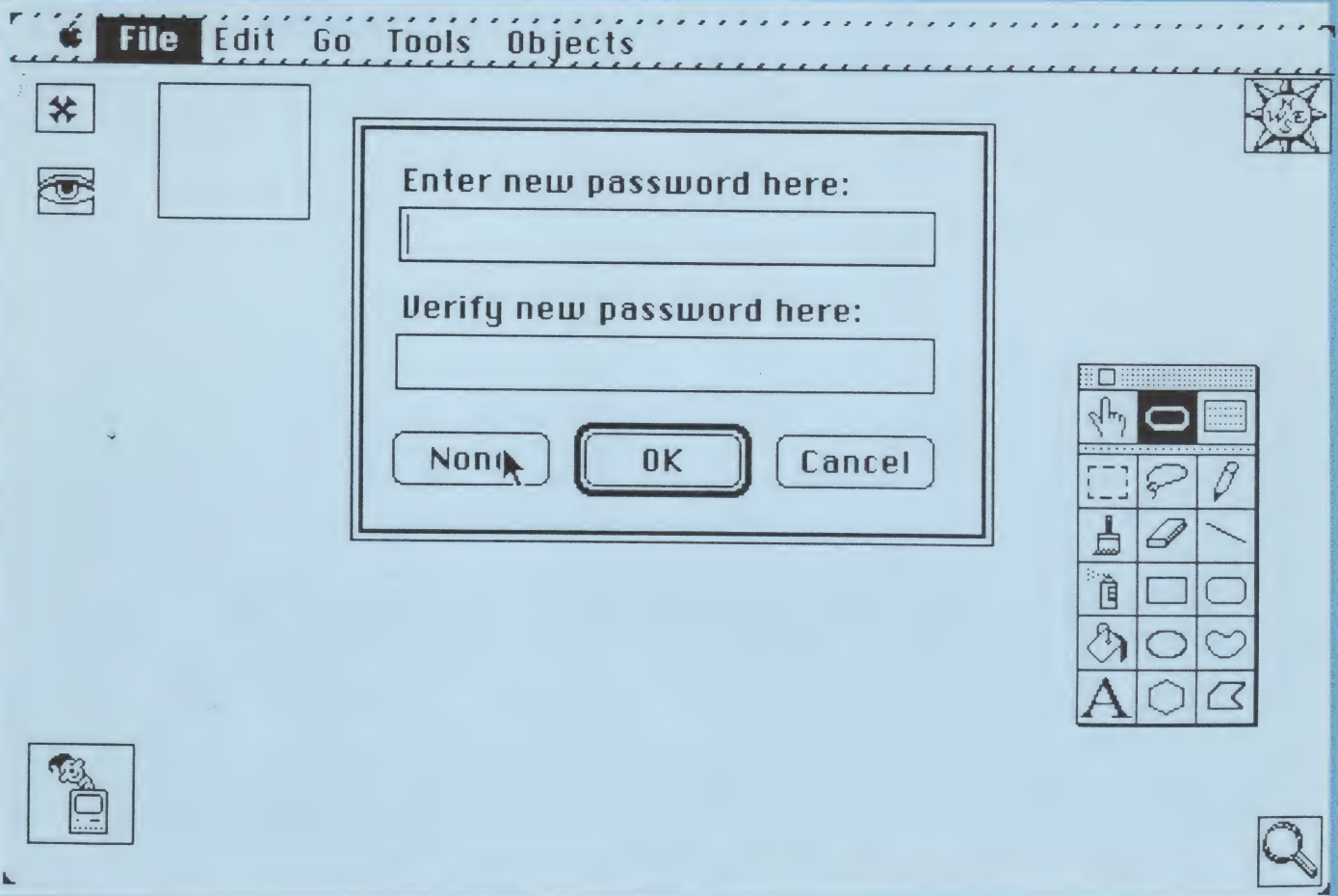


Use this feature with care as passwords are not always easy to remember and forgetting one could totally block the use of a stack.

There may be times when you want to prevent users from entering or deleting information from your stacks, but usually you won't need to use this protective function.

To delete the password and set the level back to Scripting:

- Choose **Protect Stack...** from the **File** menu
- Type pass and press Return
- Uncheck the **Private Access** box
- Click **Scripting**
- Click **Set Password** and click the **None** button



## 12. Animating a Picture

### The Animation Button Script

## HyperCard

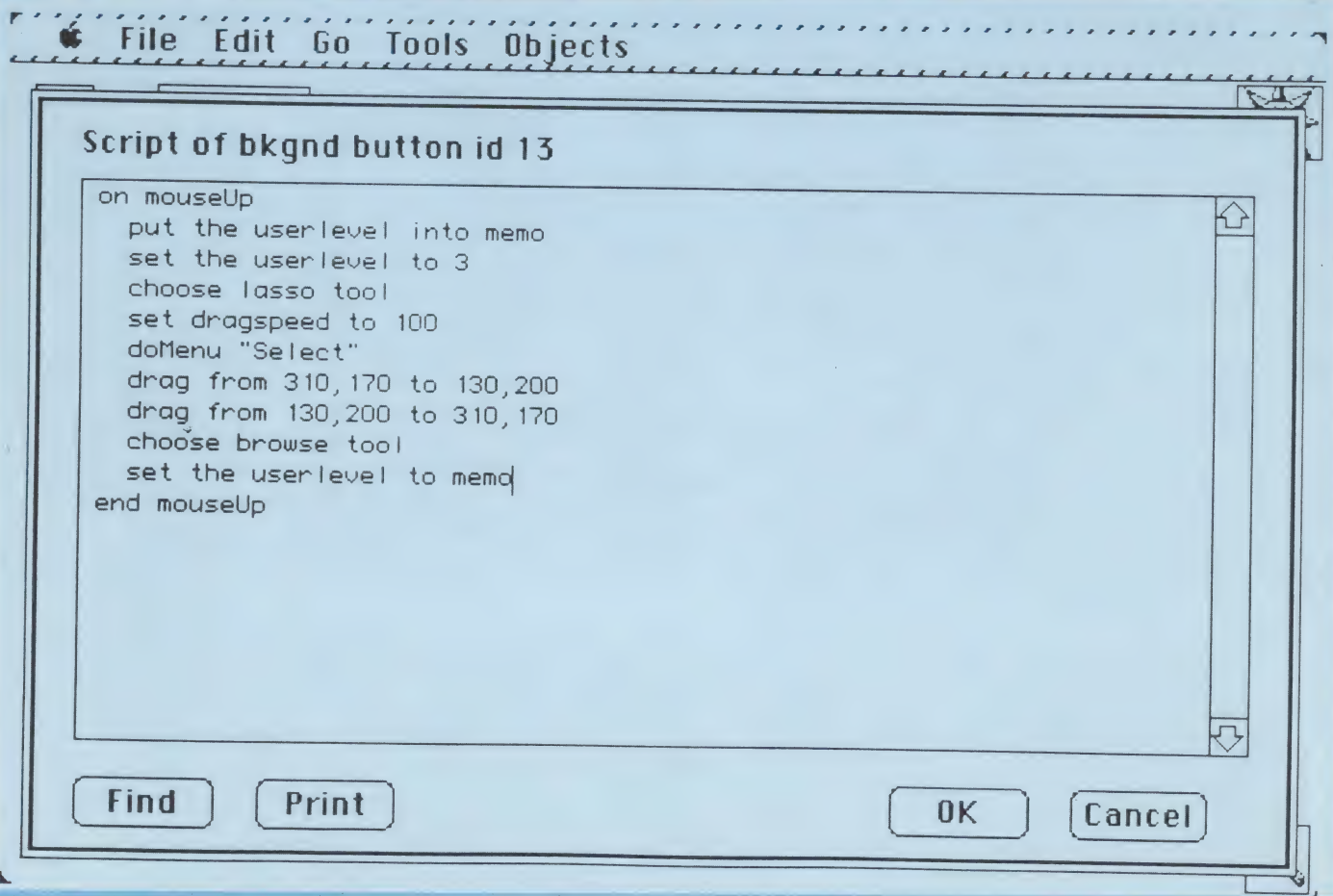
In this script you'll take into account the level necessary for users of the Pracstack stack. To activate this script, the user needs access to the HyperCard Paint tools. You're going to save the current user level (by putting it into a variable named "memory"), set the user level to 3 (which permits use of the Paint tools), and then restore the level to its original setting.

Then you can test this button. Blank lines have been inserted into the script below to make it easier to read. You can use blanks like this in any script to visually separate the various elements.

**Go to the Animation button script**  
**Type the script shown below**

The script chooses the Lasso, sets the dragspeed to 100 (pixels per second: zero is the fastest speed), selects the picture, and repositions it according to the coordinates H and V.

**Choose the Browse tool**  
**Test the button**





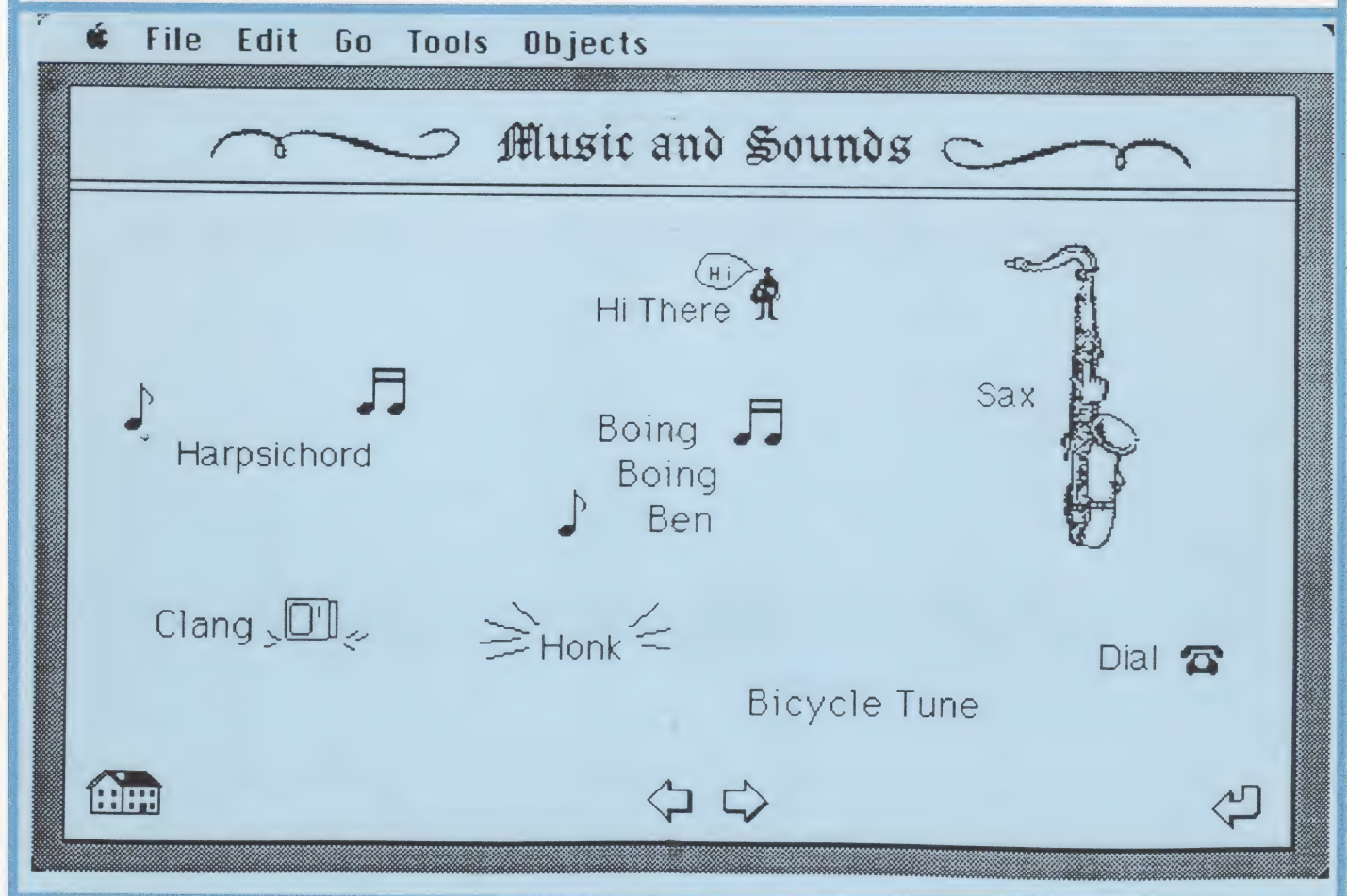
To increase the effect of the animation button, you can now add some sound. You can program musical compositions or use the HyperCard resources and play the prerecorded notes through the Macintosh speaker.

These resources are on the Music and Sounds stack.

Open the Music and Sounds stack and copy the script of one of the musical instrument buttons.

**Open the stack Music and Sounds**

**Choose the Button tool**



## 12. Animating a Picture

### Copying a Prerecorded Sound

## HyperCard

When you are in script writing mode, you don't have access to the Copy/Paste commands in the Edit menu. To copy the script of the Harpsichord button, for example, to your animation button script use the keyboard equivalents of these commands: Command-C and Command-V. Since the first version of HyperCard can't play music and animate a picture at the same time, place the play command before or after the animation part of the script.

**Go to the Harpsichord button script**

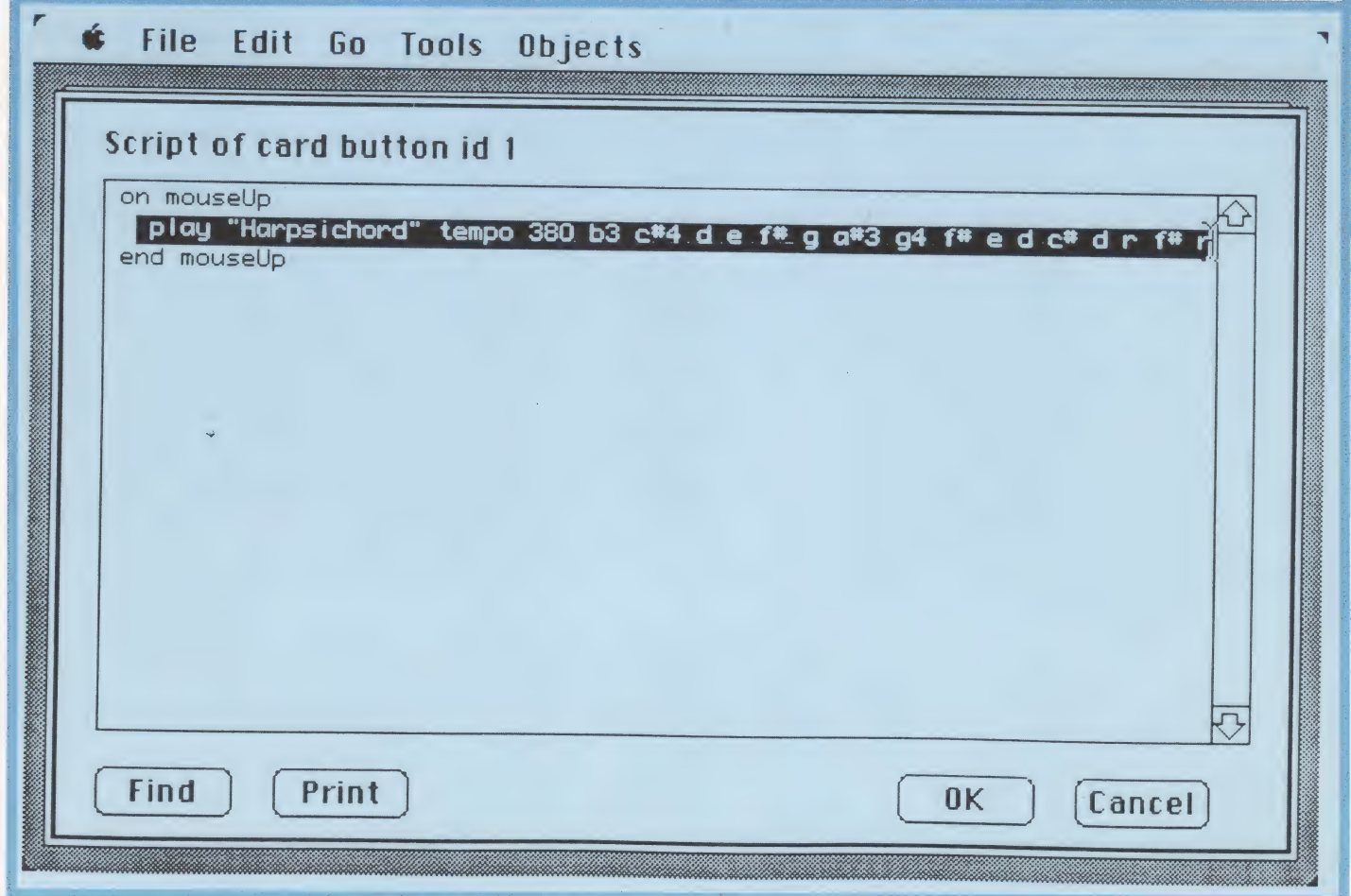
**Select the command line play ... and press Command-C to copy**

**Choose Recent from the Go menu to return to Praestack**

**Go to your Animation button script**

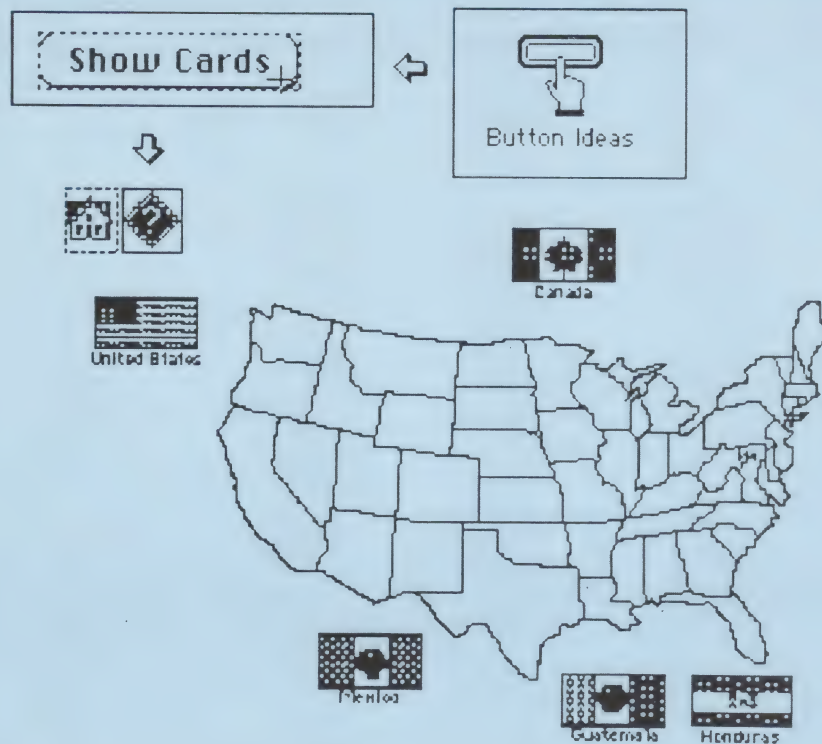
**Command-V to paste**

**Choose the Browse tool and test the button**





The HyperCard Button Ideas Stack  
Copying a Show cards button  
A Show cards Button in Pracstack



### 13. Show all cards

#### The HyperCard Button Ideas Stack

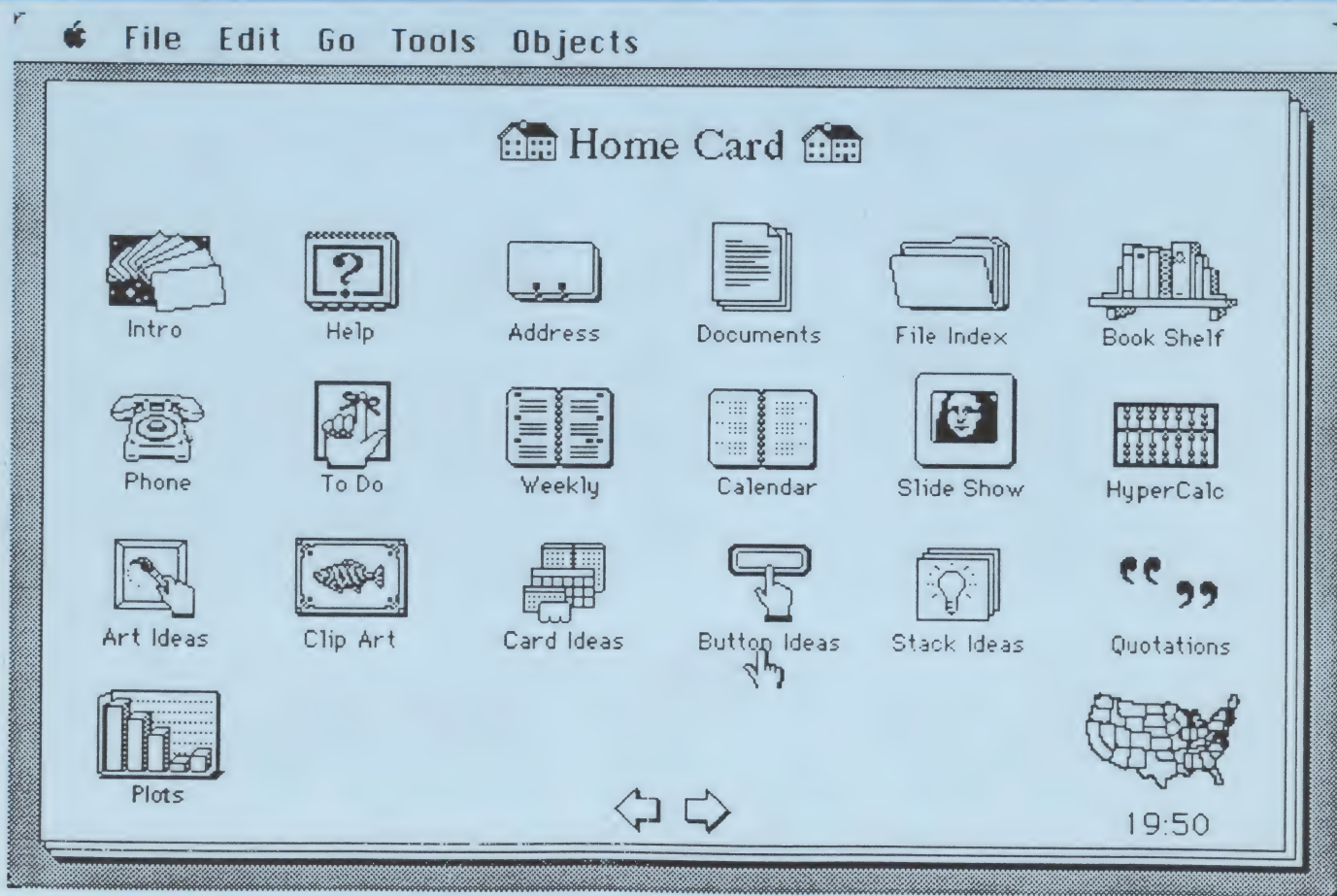
## HyperCard

You would like to visualize all the cards of pracstack. HyperCard provides you with ready-made utility buttons on the Home card for such purposes. This is the essence of HyperCard: you don't have to reinvent the wheel.

You can examine the script of this button for inspiration. Open the Button Ideas stack to find the button which interests you.

**Go to the Home card**

**Click the Button Ideas stack**



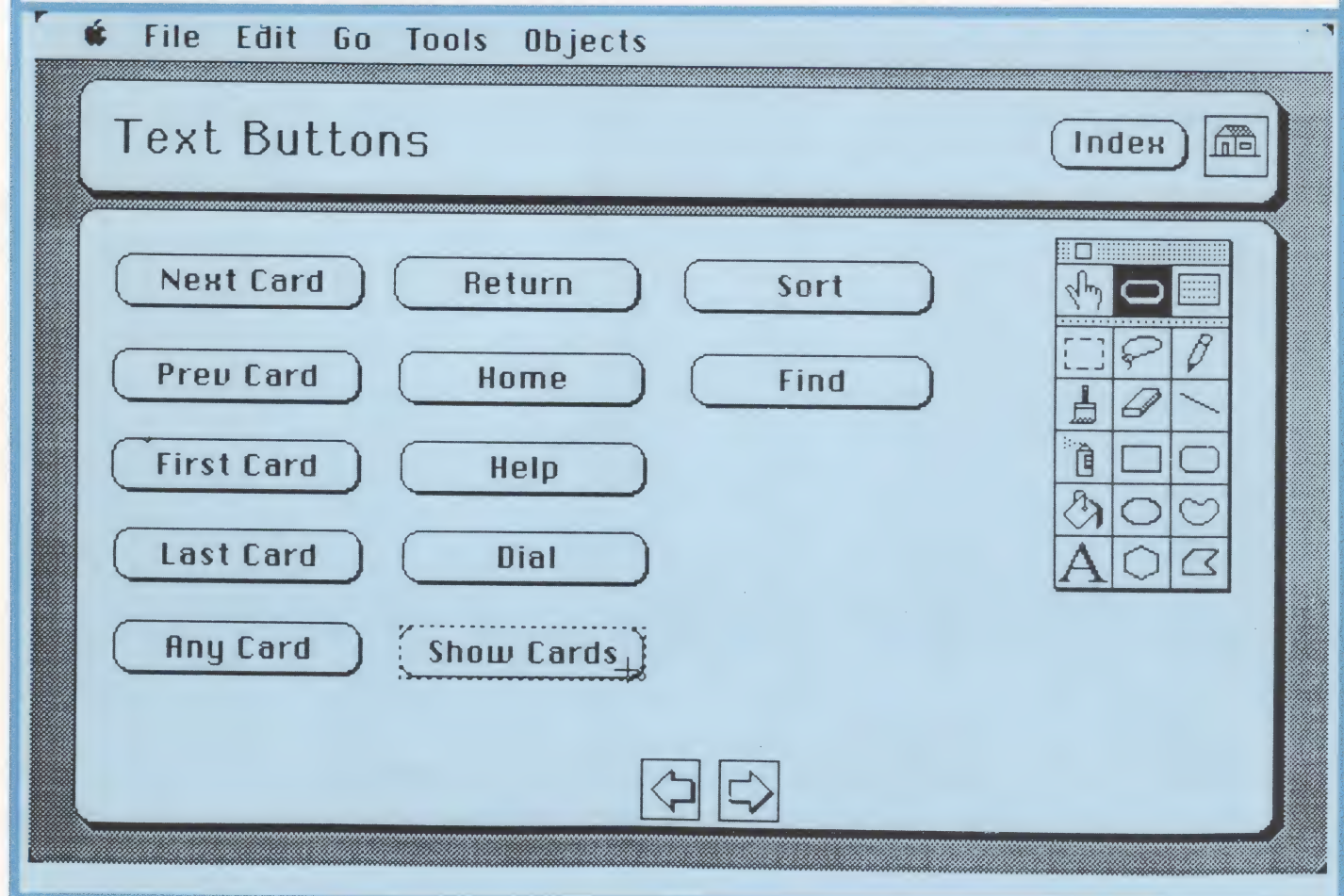


Select the Show cards button from the Text Buttons card and copy it. Browse around this stack to see what else is available. When you create buttons of your own that you use often, this would be a good place to store them for future use (or for other people) in any stack.

Click Text

Choose the **Button** tool from the **Tools** menu

Select the Show cards button and copy it



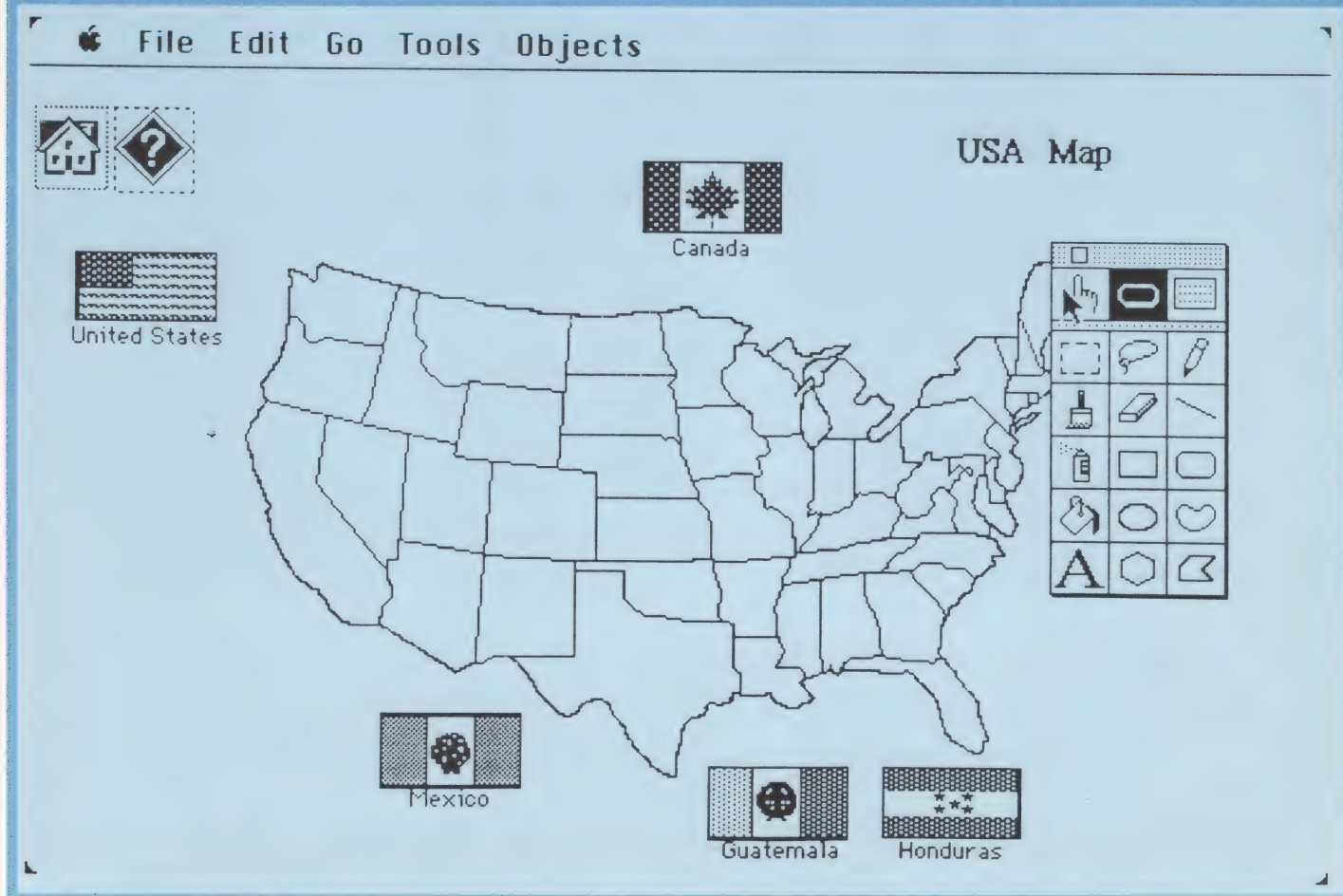
### 13. Show all cards

#### A Show cards Button in Pracstack

## HyperCard

Paste the Show Cards button on the Welcome card of Pracstack. Then change its icon to give it the look of a question mark.

Choose **Recent** from the **Go** menu to go to Pracstack  
Paste the button on the Welcome card as shown below  
Change it to transparent and change its icon





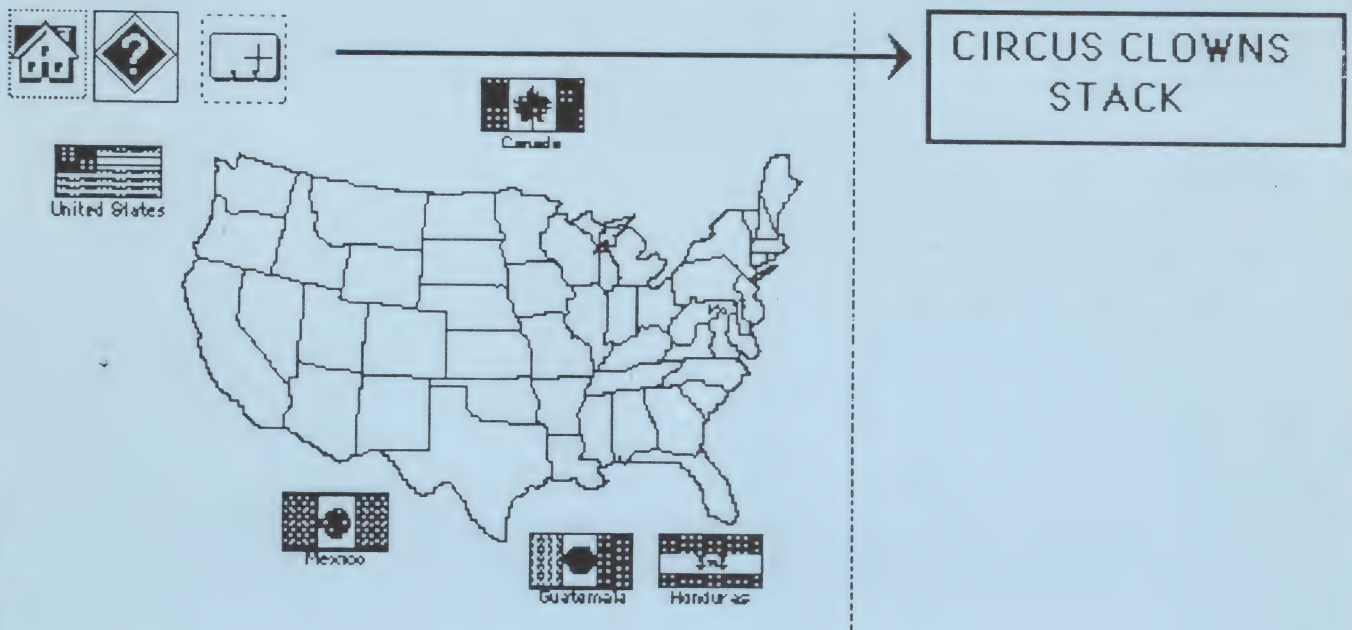
Linking the CIRCUS CLOWNS Stack

The Link Button Script

A Selective Button in the CIRCUS CLOWNS Stack

The Script

Conclusion



## 14. Linking Stacks

### Linking the CIRCUS CLOWNS Stack

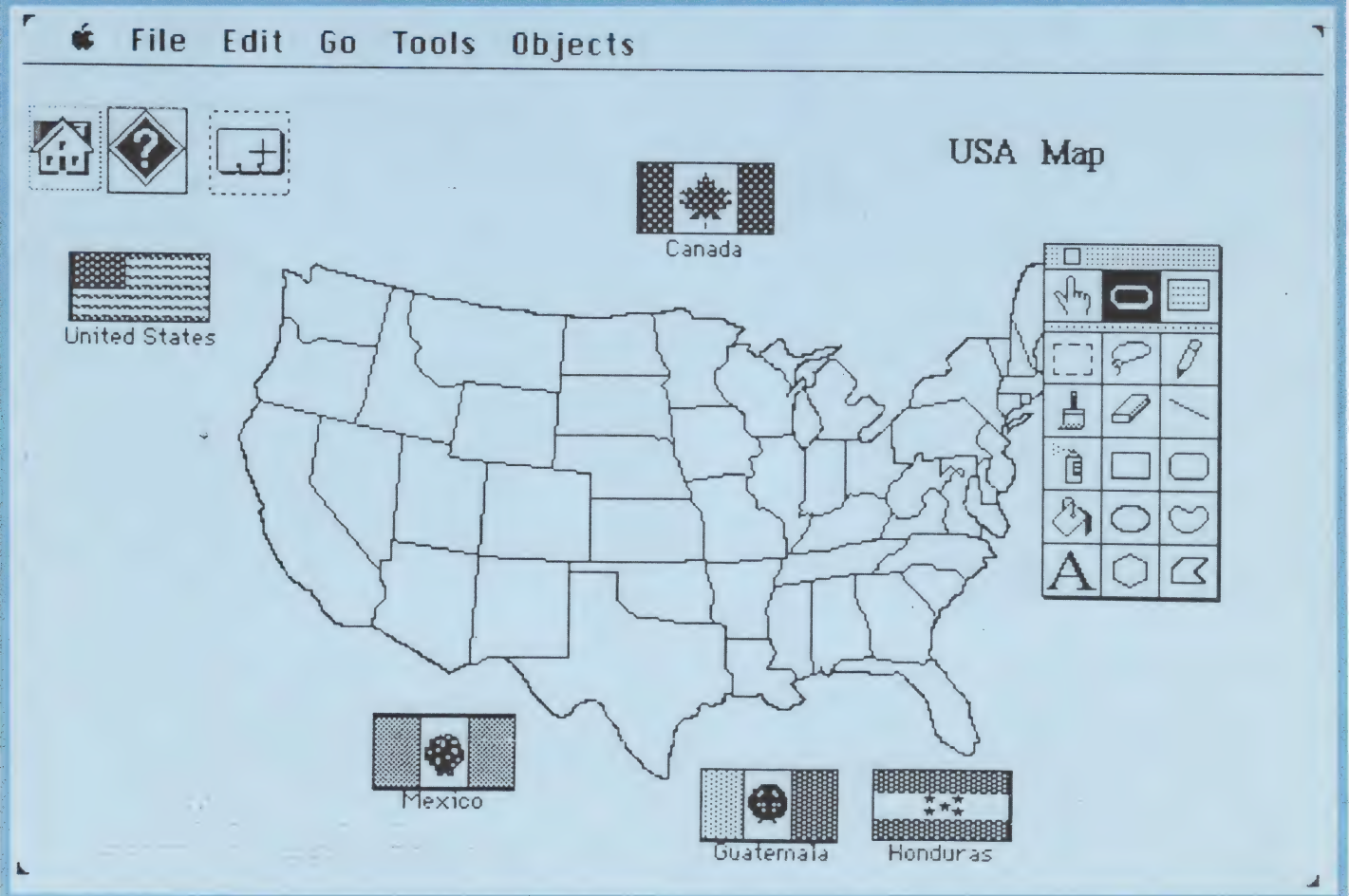
## HyperCard

You want to link the two stacks you used in this course (pracstack and the CIRCUS CLOWNS stack created at the beginning of this course). You will be able to consult the cards in the Clowns Addresses stack directly from Pracstack. To do this, create a transparent button with an address card file icon.

Choose Button mode

Create a transparent button with the icon shown below

Click the **Script...** button





In this script, the link instruction (go, or go to) will open the first card of the Clowns Addresses stack. After you've consulted the Addresses stack, you want to return directly to the Welcome card of Pracstack. The first line of the script will be a push card command for the Welcome card and the Return button script of the Addresses stack will finish with a pop card command to bring you back. Add a visual checkerboard effect to the action, then write the go to instruction shown below.

Type the script shown below

Choose Browse mode

Test the link button

Click the Return button on the CIRCUS CLOWNS card

File Edit Go Tools Objects

### Script of card button id 16

```
on mouseUp
  push card
  visual effect checkerboard
  go to card 1 of stack "Circus Clowns"
end mouseUp
```

Find

Print

OK

Cancel



## 14. Linking Stacks

### A Selective Button in CIRCUS CLOWNS Stack

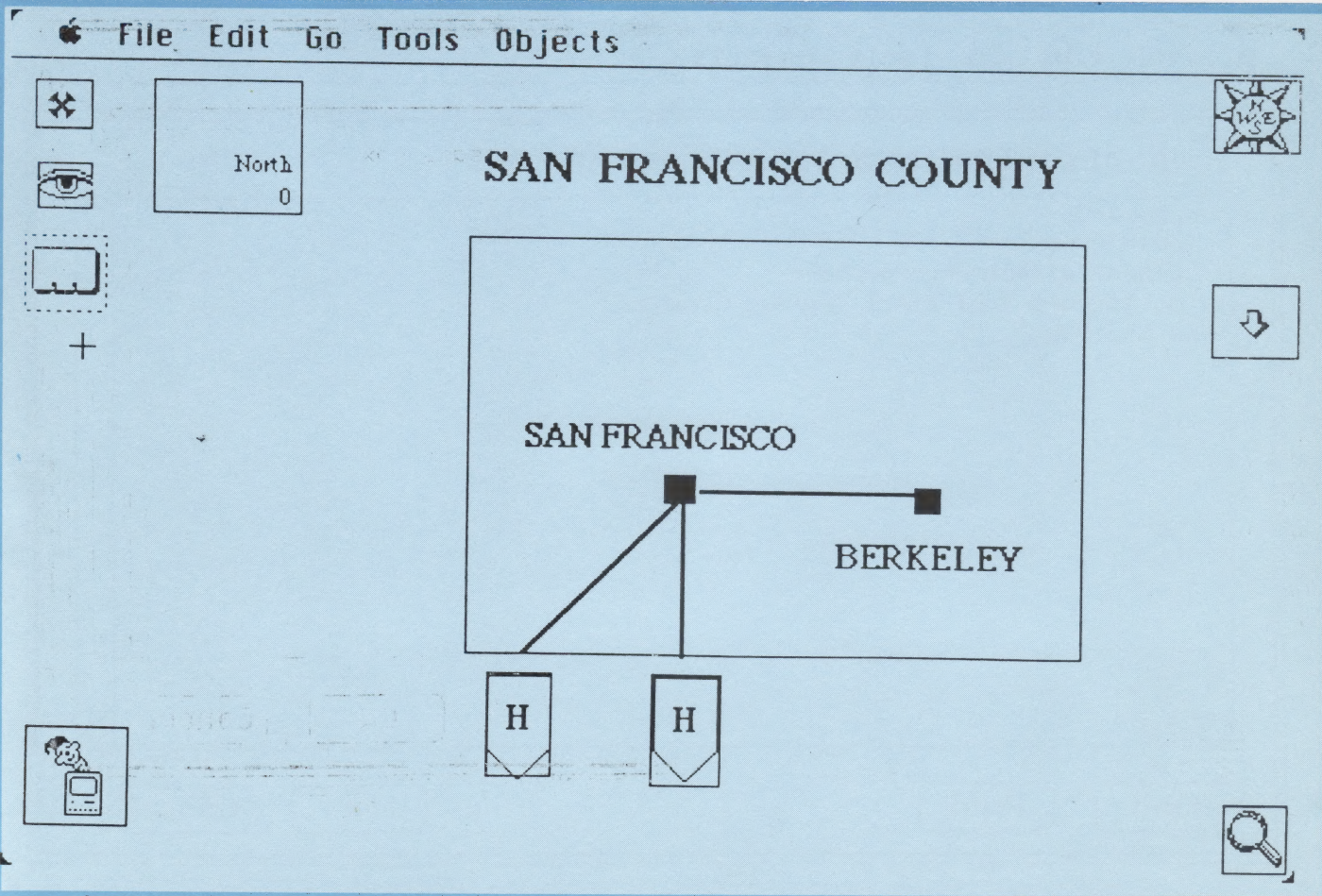
## HyperCard

You'll use the link button to access the address list of clowns for each region. Start by copying the link button from the Welcome card to the San Francisco card and adjust its script after. This button will be on card level as its task is specific to each county.

**Choose Button mode**

**Copy the link button from the Welcome card**

**Paste it onto the San Francisco card**





The script of the button now needs to be modified to find only the addresses of the clowns of the San Francisco area. You already did a search in the first chapter of this guide and you saw how the files containing a word or part of word are extracted. You used the Find command displayed in the Message box with the text string written inside quotation marks. You must respect this syntax in your script (find"SAN FRANCISCO"). The search information must also be sent to the CIRCUS CLOWN stack. You can do this through the Message box.

First, compose the order of the search and "put" it into the "message box." The search criteria is a linked alphanumeric string. Then, of course, test the search script.

**Modify the script as shown below and test it**

To see the next matching file, press the Enter key - the message box still contains the find command.

**Click the Return button to go back to Pracstack**

### Script of card button id 16

```
on mouseUp
  put "find"&quote;"SAN FRANCISCO"&quote into message box
  push card
  visual effect checkerboard
  go to card 1 of stack "Circus Clowns"
  get message box
  do it
  hide message box
end mouseUp
```

Find

Print

OK

Cancel



## 14. Linking Stacks

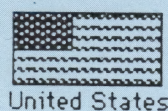
### Conclusion

# HyperCard

Voila! Your HyperCard stack is finished. You can browse through it in your own time to recall how you put together the various elements.

You have thus taken a peek at the inner workings of HyperCard, having seen but a few of its myriad of ways to handle information. You were certainly impressed at the flexibility and richness of HyperTalk, and even more at its simplicity of language.

In fact, your partnership with HyperCard has just begun. This guide has helped you navigate around the tip of the iceberg, and has hopefully shown you that continuing on your own will not be hard at all. We wish you luck and leave you to your most precious resource - imagination.



USA Map

